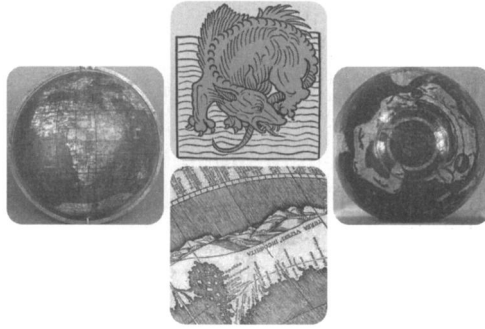


*Johann Schöner's*  
**GLOBE OF 1515**  
*Transcription and Study*



CHET VAN DUZER

AMERICAN PHILOSOPHICAL SOCIETY



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# JOHANN SCHÖNER'S GLOBE OF 1515

*Transcription and Study*

Chet Van Duzer



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# PREFACE AND ACKNOWLEDGMENTS

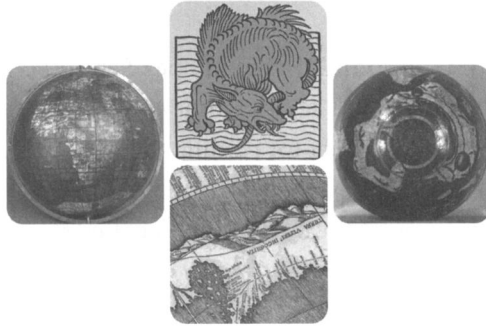
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This book is the first detailed study of the terrestrial globe of Johann Schöner (1477–1547), a cosmographer and teacher of mathematics in Nürnberg, which he made as part of the first pair of celestial and terrestrial globes in 1515. The globe is not much younger than the earliest surviving terrestrial globe, that of Martin Behaim of 1492. Schöner's globe was heavily influenced by Martin Waldseemüller's world map of 1507, yet departs from Waldseemüller's map in some important ways, most famously by indicating the possibility of sailing around the southern tip of South America some years before Magellan in 1520 discovered the straight that bears his name and made that passage. The globe is an important part of early sixteenth-century cartography, and an important chapter in the cartographic history of the New World, and as such merits careful study.

Transcribing and commenting on all of the toponyms and legends on the globe, as well as discussing all of the images, has entailed an examination of textual, cartographic, and graphical sources which has enabled me to shed light on the relationship of the globe to maps, globes, and books of the period. In particular, as the globe's relationship with Martin Waldseemüller's map of 1507 is quite close, the book allows one to appreciate the character of that map through its differences from Schöner's globe. I have also revealed the importance of the illustrated encyclopedia titled *Hortus sanitatis* or *Ortus sanitatis*, first published in 1491, as a source used by cartographers. My hope is that the book's commentary is broad enough that it will be useful not only in the study of Schöner's globe and Waldseemüller's map of 1507, but also in the study of late fifteenth- and early sixteenth-century cartography generally.

I would like to thank the staff of the Stanford University Libraries, particularly John Mustain, Polly Armstrong, and Larry Scott, for their generous and unstinting aid during the research for this book. Frank Berger, Curator at the Historisches Museum in Frankfurt, was of great assistance in answering questions about the Frankfurt exemplar of Schöner's globe; as was Wolfram Dolz, Head Conservator of the Staatliche Kunstsammlungen Dresden, with the Weimar / Dresden exemplar of the globe; and Francis Herbert with the facsimile of the globe in the collections of the Royal Geographical Society.

I would also like to thank Sandra Sáenz-López Pérez and Ilya Dines for their help and advice with various questions; and William A. R. Richardson, John Hessler, Jan Mokre, and Peter Meuer for reading the manuscript, correcting me in a number of points, and offering me advice and references. It is a pleasure to express my gratitude here to all of these friends and colleagues for helping me with this book.



# INTRODUCTION

In May 2003 the Library of Congress completed its purchase of the only surviving copy of Martin Waldseemüller's monumental world map of 1507.<sup>1</sup> The twelve sheets of the map had been bound in a codex, formerly sometimes called the Wolfegg Codex due to its former ownership by the family of Prince Waldburg-Wolfegg and its location in Wolfegg Castle in Baden-Württemberg, Germany, and now known as the Schöner Sammelband.<sup>2</sup> The codex had been assembled by Johann Schöner perhaps around 1530, and included the sheets of Waldseemüller's 1507 world map, as well as those of his 1516 *Carta marina*. Following the Library of Congress's acquisition of Waldseemüller's 1507 map, which had been removed from the Sammelband, the collector Jay I. Kislak acquired most of the remainder of the Sammelband, except for a star chart of the southern hemisphere by Albrecht Dürer, which remains in the collection at Wolfegg Castle. Earlier disassembly of the Sammelband had revealed that fragments of a set of the printed gores of Schöner's 1515 globe, of which only two other exemplars survive, had been used in its binding.<sup>3</sup> These fragments have been removed from the binding and mounted, and they form an important part of Kislak's acquisition. In 2004 Kislak announced the donation of his important collection of rare books and documents relating to the early history of the Americas, including the Sammel-

band, to the Library of Congress. The donation of these fragments of Schöner's 1515 globe gores to the Library called attention to the lack of any careful study of the toponyms and legends on this important globe, and provided a good opportunity to transcribe and comment on them, which is the purpose of this study.

Johann Schöner (1477–1547), a cosmographer and professor of mathematics in Nürnberg,<sup>4</sup> made his first globe in 1515, and accompanied it with a descriptive text, *Luculentissima quaedam terrae totius descriptio* (Nürnberg: Ioannis Stuchssen, 1515). There are two surviving exemplars of this globe, which measure 27 cm in diameter:<sup>5</sup> one is in the Historisches Museum in Frankfurt am Main (HMF X 14610) (see Fig. 1)<sup>6</sup>; the other is owned by the Herzogin Anna Amalia Bibliothek, Stiftung Weimarer Klassik (inventory nr. E I 125) (see Fig. 2).<sup>7</sup> The gore fragments acquired by the Library of Congress (no shelfmark) form something less than 50% of a complete set of gores (see Figs. 3 and 4). Although the 1515 globe is not signed by Schöner, the attribution of the globe to him cannot be seriously doubted: the correspondence between the globe and the *Luculentissima* is very close indeed.

Schöner's 1515 globe depends heavily on Martin Waldseemüller's famous twelve-sheet world map of 1507,<sup>8</sup> the first map to assign the name "America" to the New World,<sup>9</sup> which as mentioned earlier, was also recently acquired by the Library of Congress (see Fig. 5). In fact quite often a brief legend that is difficult to interpret on Schöner's globe is clarified by consulting the typically longer version on Waldseemüller's map. Schöner departs from Waldseemüller in several important ways, however, particularly in the position of Africa on his globe; in his depiction of a southern continent, specifically an unusual ring of land around the South Pole (see Fig. 36), where Waldseemüller has none<sup>10</sup>; and most famously in depicting a sailing passage around the southern tip of South America (see Fig. 6) some years before Magellan discovered such a passage in the Strait that bears his name.<sup>11</sup>

This study has generated several important conclusions about the globe.

First, neither the oft-reproduced tracings of the Frankfurt globe by Jomard,<sup>12</sup> nor the facsimile globe owned by the Royal Geographical Society in London (shelfmark mr Globe 2), also possibly produced by Jomard,<sup>13</sup> is a complete or reliable representation of the globe's toponyms or legends. On both the tracings and the facsimile globe some toponyms are omitted due to lack of space, whereas others are copied imprecisely, in some cases thus rendering them unintelligible.

Second, Schöner used as an iconographic source for several of the sea monsters that adorn his globe woodcut images from the section entitled, "De piscibus & natatilibus," of the book, *Hortus sanitatis* or *Ortus sanitatis*.<sup>14</sup> This book, an anonymous illustrated encyclopedia of plants, animals, reptiles, birds, fish, and stones, was first published in 1491 in Mainz by Jacob Meydenbach.<sup>15</sup> This is an exciting insight into Schöner's use of sources.<sup>16</sup> Uwe Ruberg has demonstrated a few

connections between the animals depicted on the Ebstorf *mappamundi* (c. 1235) and the bestiary tradition<sup>17</sup>; Naomi Reed Kline and Margriet Hoogvliet have demonstrated some tentative connections between the animals on the Hereford *mappamundi* (c. 1290–1310) and those in medieval bestiaries<sup>18</sup>; and the information about the different types of sirens on the Catalan Estense *mappamundi* (c. 1460) seems to have come from a Catalan bestiary;<sup>19</sup> but in the case of Schöner's 1515 globe and the *Hortus sanitatis* the connection is direct and unmistakable. It should be remarked that even though Waldseemüller has legends about sea monsters in his 1507 map, he does not depict them.

Third, at some point in the history of the Weimar globe its surface was heavily restored. There is no record of such a restoration, but the evidence of it is particularly clear in Central and Southern Africa, Central Asia, and South America on this globe. South of the equator in Africa, the Nile, together with the unnamed river to its west,<sup>20</sup> have their courses marked in relatively fresh black ink, whereas toponyms near their courses are very faded. In Central Asia the outlines of mountains and courses of rivers are similarly dark and clear, whereas many of the nearby toponyms and legends are hardly visible. In South America most of the toponyms are very faint indeed, but the first two letters of *AMERICA*, as well as parts of the naked man drawn further to the south, have been redrawn in relatively fresh black ink (see Figs. 7 and 8). Moreover, the man was not redrawn accurately. On the Frankfurt globe and the Library of Congress gores, where the image is clear, his right arm bends up at the elbow, whereas it points straight down and also lacks a hand on the Weimar globe—although traces of his original upward bending arm are visible near his shoulder. Much additional evidence of this restoration of the Weimar globe will be presented shortly.

Fourth, there are significant differences between the two globes. Wieser alluded to a few such differences, but dismissed them as insignificant without listing them or studying them in detail.<sup>21</sup> In fact, these differences are important; I will list all of the differences I found in the following commentary, but it is worth discussing some of them here. For example, on the Frankfurt globe there are three islands south of Java Major: Angama, a small nameless island to the east, and a large nameless island further to the east.<sup>22</sup> On the Weimar globe there is not the slightest trace of the nameless islands, and there is no trace of the outline of Angama, although curiously there are very faint traces of parts of the name *Angama* and of the legend that is written on the island on the Frankfurt globe (see Figs. 27 and 28). In addition, around these traces there is a slight opening in the wavy lines that Schöner uses to indicate seas and lakes on the globes; this opening is not large enough to accommodate the whole island of Angama, but the presence of the opening is undeniable.



The shape of the *Sinus Persicus* or Persian Gulf is dramatically different on the two globes. On the Frankfurt globe and the Library of Congress gores, the Gulf has the rounded rectangular shape we would expect, similar to the shape of the Gulf in maps in Renaissance Ptolemaic maps and in Waldseemüller's 1507 map, and it has eleven islands. The shape of the Gulf on the Weimar globe is very different: there are two bays on its northern coast, and only two islands (see Figs. 14 and 15). It is also clear that these two bays cover what was once land on the Weimar globe: In the western bay faint traces are visible of the toponym *Babilonia*, which appears in exactly the same location (but on land) on the Frankfurt globe, and in the eastern bay there seem to be traces of letters that would correspond to the name *Persidi*, which occurs in this location (again, on land) on the Frankfurt globe.

The shapes of the Caspian Seas are also different on the two globes: There is an extra bay at the eastern end of the sea on the Weimar globe that covers what are the *Oxy m* (the *Oxii montes* of Ptolemy 6.12) on the Frankfurt globe (see Figs. 12 and 13). Traces of the toponym *Oxy m*, of what had been the western edge of the mountains, and of the original eastern shore of the Caspian are clearly visible.

On both globes there is a ship southwest of *Zipangri* (Japan), but the ships are completely different (see Figs. 29 and 30): The ship is larger on the Frankfurt globe; the mast is taller and has a crow's nest; there are horizontal lines around the bottom of the mast; there is a lot of rigging; there is a person on the ship; the ship is anchored; the hull has lines that follow its contours; the ship's hull is low in the water; and there are waves radiating from the ship. The ship on the Weimar globe is simpler and smaller, with vertical hatching on the hull, and the hull sits up out of the water; there is no rigging, no person, no anchor line, and the waves are undisturbed. There are many other differences between the globes, particularly with regard to the ships and sea monsters represented on them, and in several cases ships or monsters that appear on the Frankfurt globe are absent on the Weimar globe; as I mentioned, these differences will be detailed later. It is also very easy to find differences between the patterns of waves on the two globes by comparing the patterns along a coast or at a particular latitude and longitude.

These differences are surprising, because Schöner's 1515 globe is printed, not manuscript. Two possible explanations of the differences present themselves. First, that a great portion of the surface on the Weimar globe was extremely faded—so faded that in a number of cases no trace whatsoever of the original toponym or wave pattern or of the outline of whole islands, ships, and sea monsters was preserved—and these areas were completely redrawn during the aggressive restoration of the globe mentioned earlier. Second, there were in fact two editions of Schöner's 1515 globe.

I can find no definitive evidence that the Weimar globe is a different edition from the Frankfurt globe, whereas there is abundant evidence of extreme fading on

the Weimar globe. Many legends in the Indian and Pacific Oceans are so faded as to be almost invisible, but they are surrounded by dark, relatively fresh lines representing waves—much as we saw in the toponyms of Central and Southern Africa, South America, and Central Asia. Thus, we face the startling conclusion that a substantial portion of the surface of the Weimar globe, although intended to reproduce Schöner's design, is in fact the work of a later hand.

Fifth (returning to our list of conclusions), the Library of Congress gores, though uncolored, are essentially identical to the Frankfurt globe. There are some cases where a toponym has been damaged on the Frankfurt and is faded to illegibility on the Weimar globe, but does appear on the surviving part of the Library of Congress gores. In these cases the wonderful state of preservation of the gores makes them a valuable aid in the study of Schöner's globe.

Sixth, the voyage that Schöner depicts on his globe from western Africa around the Cape of Good Hope to Madagascar and eastern Africa (see Figs. 1 and 3), and which he describes in his *Luculentissima* f. 39v without naming the captain, seems to be that of Diogo Lopes de Sequeira (1466–1530), who sailed from Lisbon with four ships in 1508, and visited Magadascar, Calicut and Cochin, and then became the first representative of any European power to reach Malacca (though Ludovico di Varthema made a private visit there earlier, probably in 1506). I will provide details about Sequeira's voyage later as well as commentary on the route as depicted on Schöner's globe (Schöner depicts only the African part of the voyage, and not the legs from Lisbon to West Africa, or from East Africa to India and Malacca), but would like to emphasize here that Schöner's globe is an important and heretofore unrecognized piece of documentation of Sequeira's voyage. I am not aware of any other map that purports to show Sequeira's course.

In addition to these more important conclusions, it is worth mentioning here that Schöner's globe betrays a strong interest in the Three Wise Men or Magi who came from the East after the birth of Jesus to worship him and bring him gifts (see Matthew 2:1–12). Schöner has legends indicating where their kingdoms were, and also indicates the location from which the Star of Bethlehem was first seen, which guided the Wise Men to Jesus (see p. 72 on *Meandrus* & *Victorialis m*). The only other cartographer I know who shows as much interest in the Three Wise Men is Martin Behaim in his globe of 1492. It should be emphasized that Schöner did not take his legends about the Three Wise Men from Waldseemüller's 1507 map; indeed, the Wise Men are not even mentioned on Waldseemüller's map.

Before beginning the transcription and study of Schöner's globe, I will describe three contemporary globes that have been associated with or seem to have been influenced by Schöner's 1515 globe.

The first is the "Globe vert" or "Green Globe" in the Bibliothèque nationale de France (Rés. Ge A 335), which is made of wood and is 24 cm in diameter. It is

usually dated to c. 1515, and is in all probability the earliest cartographic object to apply the name "America" to both the northern and southern portions of the New World. The globe was formerly attributed to Schöner or his school, but Monique Pelletier recently attributed it to Waldseemüller.<sup>23</sup> The matter of attribution, however, is not so clear: The globe's Africa is similar to that on Waldseemüller's 1507 map (and dissimilar to that on Schöner's 1515 globe) in that western Africa extends well below the equator, whereas the globe's southern continent seems to have been copied from Schöner's 1515 globe (see Figs. 36 and 37).<sup>24</sup> The globe lacks a meridian marked with individual degrees which Schöner seems to have preferred (see his 1515 and 1520 globes), whereas on the other hand it is difficult to imagine Waldseemüller placing the little satellite islands west of the *litus incognitum* in the North Atlantic, as they are on the Green Globe, rather than east of it, as they appear on his 1507 map and his 1516 *Carta marina*. It seems most likely that neither Schöner nor Waldseemüller himself made the globe.

The globe formerly known as the "Mounted Hauslab Globe" and part of the collection of Franz Ritter von Hauslab, and later in that of Prince Johann II of Liechtenstein, and subsequently that of Paul Mellon, is now known as the Brixen Globe and is in the Department of Rare Books and Manuscripts in the Yale Center for British Art, New Haven (shelfmark L-1999-3-2a). It is a manuscript globe made of wood and has a diameter of 36.8 cm; it is in excellent condition, and was constructed in 1522 at the order of Nicolaus Leopold as a gift for Sebastian Sperantius, Bishop of Brixen. J. Luksch has noted that the globe's depiction of the New World is quite similar to that in Schöner's 1515 globe, but the Brixen Globe does not have the unusual southern continent of Schöner's 1515 and 1520 globes. Moreover, the handwriting on the Brixen Globe is entirely different from Schöner's. In fact, the globe exhibits more connections with Waldseemüller's 1507 map: Western Africa extends below the equator as it does on Waldseemüller's map (but not on Schöner's globe), and many of the legends on the globe are similar to those on Waldseemüller's 1507 map.<sup>25</sup> An attribution of the Brixen globe to Waldseemüller is impossible, however, for Waldseemüller's geographical ideas had changed dramatically by 1522 (when the Brixen globe was made), as evidenced by the "*Tabulae modernae*" or modern, non-Ptolemaic maps reliably attributed to Waldseemüller in the Strassburg 1513 edition of Ptolemy's *Geography*,<sup>26</sup> and in Waldseemüller's 1516 *Carta marina*.<sup>27</sup> It does seem though that the anonymous cartographer of the Brixen globe was working from a copy of Waldseemüller's 1507 map.

The third globe evidently similar to Schöner's 1515 globe is that formerly in the collection of Count Piloni di Belluno, subsequently in that of Paolo Marezio Bazolle, and later in that of Admiral William Acton (1825–1896); I have been unable to trace the present whereabouts of this globe. According to the brief and unfortunately unillustrated descriptions of the globe by Tessier and Stevenson,<sup>28</sup>

the globe is 24 cm in diameter, with meridians and parallels drawn at intervals of 10°, and the prime meridian passing through the Canary Islands. The shape of the New World is very similar to that in Schöner's early globes, and some of the legends betray the influence of Schöner, but it is impossible to be sure just how close its relationship is with Schöner's 1515 globe in the absence of additional information about the globe.

There are two books of particular importance in the study of Schöner's 1515 globe. The first is Ptolemy's *Geography*.<sup>29</sup> Schöner owned two editions of Ptolemy's *Geography* and excerpts from another: the 1482 Ulm edition, Schöner's handwritten summary of Books I and VII of the so-called German Ptolemy of 1490,<sup>30</sup> and the 1513 Strassburg edition; his copies are now in the Österreichische Nationalbibliothek in Vienna,<sup>31</sup> and their extensive annotations in Schöner's hand clearly demonstrate the time he devoted to studying these works. Further, Waldseemüller's 1507 map depends heavily on Ptolemy, as he acknowledges in both the map's title (*Vniversalis Cosmographia Secvndvm Ptholomaei Traditionem et Americi Vespcii Aliorvmqve Lustrationes*) as well as in the portrait of Ptolemy at the top of the map—and Schöner used this map as a source.

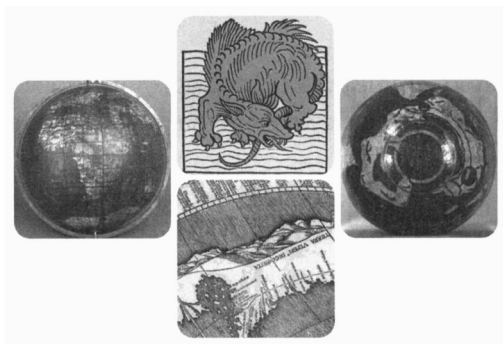
The second of these books is Schöner's *Luculentissima quaedam terrae totius descriptio* (Nürnberg: Ioannis Stuchssen, 1515), which he wrote to accompany his globe of the same year.<sup>32</sup> The *Luculentissima* consists of two tractates, the first devoted to mathematical geography, describing the poles, latitudes and longitudes, the Zodiac, the climactic zones of the earth, how to determine the distance between two locations on the globe, and so on; the second has chapters on the winds, the ocean, and on the use of the globe, and then gives a detailed description of the geography, topography, peoples, and cities of Europe, Africa, Asia, and the New World. This book is essential in interpreting some aspects of Schöner's globe; for example, the globe itself offers no explanation of the sailing route it depicts from West Africa around the Cape of Good Hope to Eastern Africa, but information about this voyage is provided on f. 39v of the *Luculentissima*. At the same time, however, it bears mentioning that there is no exact correspondence between the information presented in the *Luculentissima* and that on the globe. There are many toponyms that appear in the *Luculentissima* but not on the globe, and vice versa.<sup>33</sup> Further, the spellings of many toponyms are different on the globe and in the *Luculentissima*. It is partly these differences between the globe and the *Luculentissima* that make a transcription of the toponyms on the globe important.

In my commentary on the toponyms and legends I generally signal any differences between Schöner's 1515 globe and Waldseemüller's 1507 map, as these indicate places where we can be certain that Schöner was using other sources. I also remark on all significant differences I have noticed between the Frankfurt and Weimar exemplars of the globe. Some parts of the globe naturally require more

comment than others: For example, the cartography of Europe was very well established by the early sixteenth century, whereas that of the New World and the coasts of Africa, was evolving rapidly.

Transcribing the toponyms on a globe or map presents a problem of organization; generally, I will transcribe the toponyms reading north to south until reaching a convenient stopping point, then move to the east and again read from north to south. In my commentary on the globe I have provided detailed comparative information about earlier and contemporary maps and globes, both in order to contextualize Schöner's 1515 globe, indicate the sources he used, and show how his work differs from those of his contemporaries, and in the hope of producing a work that would be useful in the study of other maps and globes of the late fifteenth and early sixteenth centuries.





# NORTH AMERICA

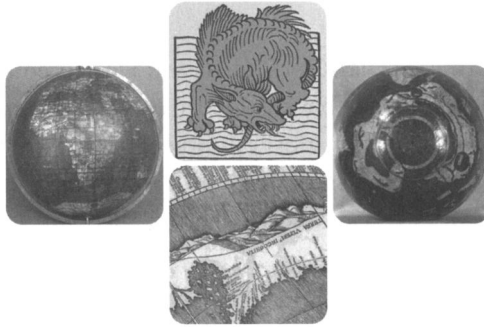
On his 1515 globe Schöner's name for what is now known as North America is *Parias* (see Figs. 2, 4, 6, and 7), and he applies the name *America* only to the southern part of the New World. The paucity of North American toponyms on this globe is puzzling, because Waldseemüller's 1507 map, and for that matter the Cantino chart of c. 1502<sup>34</sup> and Caverio chart of c. 1504–5,<sup>35</sup> offer considerably more<sup>36</sup>—as does the contemporary Green Globe mentioned earlier,<sup>37</sup> which is somewhat smaller than Schöner's 1515 globe. Schöner shows a similar lack of interest in North American toponyms in his description of *Parias insula* (i.e., North America) in his *Luculentissima* f. 60v, where he mentions not one aside from *Parias insula* itself. On Schöner's 1520 globe, North America (which he labels *TERRA DE CVBA* in the north, and *PARIAS* in the south) has many more toponyms than on his 1515 globe.

*PARIAS*. This name indicates that the land was that discovered by Columbus in his third voyage (1498–1500). He met some natives in early August 1498 when he was on the northeastern coast of what is now Venezuela, "...e me dijeron como llamaron á esta tierra Paria," [...and they told me that the country was called Paria].<sup>38</sup> In his *Luculentissima*, f. 60v, Schöner has a long paragraph on *Parias insula*, mostly devoted to ethnographic description of the inhabitants:

they are nude, are excellent archers, have no king, their riches consist in feathers of various colors; they have no grain, but make flour from a certain woody root, and also eat human flesh, and so on. I will transcribe and translate Schöner's paragraph on *Parias insula* in Appendix 1. Many of the details in Schöner's description come from Vespucci's account of his first voyage, which he claimed to have made in 1497–98, and Vespucci's accounts of his voyages were of course printed with the *Cosmographiae introductio* by Waldseemüller and Ringmann.

*Vlterius incognita terra*. Indicating that the western part of the landmass is unknown.

*C. sanctu*. [The Holy Cape.] This toponym first appears (as *cabo Santo*) on the Cantino map, and subsequently on the Caverio map, Waldseemüller's 1507 map, and others; however, its origin, like that of the other North American toponyms on Cantino's map, is unknown: There was evidently a pre-1502 exploration of the southeastern coast of North America of which we have no written account, but which left traces on contemporary maps. See Stevenson, *Marine World Chart*, pp. 32–38 for discussion. Schöner does not mention the cape in his *Luculentissima*.



## SOUTH AMERICA

Other than *AMERICA* itself, none of the South American toponyms on the globe appears in Schöner's *Luculentissima*. All of the South American toponyms on the Weimar globe are quite faded, and several are illegible (compare Figs. 8 and 9), except for the first two letters of *AMERICA*, which have clearly been restored, as has the image of the native man. It is worth repeating that Schöner applies the name *America* only to the southern part of the New World. Following the discussion of the name *AMERICA* the toponyms and features are discussed from north to south. This part of the globe may be seen well in Figs. 6, 8, and 34.

*AMERICA*. It was of course Martin Waldseemüller and Matthias Ringmann in their *Cosmographiae introductio* (St-Dié: G. Ludd, 1507), and Waldseemüller in his 1507 map that the *Cosmographiae introductio* was written to accompany, who first applied this name to any part of the New World.<sup>39</sup> In his *Luculentissima* ff. 60r–60v Schöner repeats Waldseemüller and Ringmann's derivation of the name from that of Amerigo Vespucci, and then describes the inhabitants of this land: They are brutal and tall, and eat fish that they catch in the sea; they have neither villages nor huts, but use large leaves to protect themselves from

the sun (this detail is from Vespucci's account of his second voyage); they worship the heavens and the stars, and are cannibals. There are many unusual animals including red parrots. I will transcribe and translate Schöner's description of *America* in Appendix 2.

*arcai*. In his 1507 map Waldseemüller gives *Arcaii*. This toponym is closely connected with that just to the south, *Batoia*; the *Capitulations* of July 20, 1500, mention "las islas de Arquibacoa" discovered by Alonso de Hojeda<sup>40</sup>; other sources, such as Bartolomé de las Casas, *Historia de las Indias*, Chap. 166, refer to *Cuquibacoa*.

*Batoia*. In his 1507 map Waldseemüller gives *batoia*; see the previous toponym.

*G. inferni*. Waldseemüller gives *G. de inferno*, "The Infernal Gulf"; see HARRISSE, *Discovery*, p. 317.

*Altissimus m.* [Very high mountain.] Waldseemüller gives *montana altissima*. On the Cantino map HARRISSE, *Discovery*, p. 317 reads *montanbis albissima*, "Very White Mountains," and believes that this is the correct form, and that the mountains are the white mountains of Citarma.

*dulcis aqua*. [Fresh water.] This legend off the east coast on the Frankfurt globe and the Library of Congress gores (see Figs. 6 and 4, respectively) indicates that the great flow of the Amazon (see *Grandis fl* following) results in the sea being fresh some distance from the coast. Waldseemüller has *Totum istud mare est de aqua dulce*. It is important to note that the coast here is entirely different on the Weimar globe (see Figs. 8 and 9): The large gulf in which this inscription should appear is filled with land north to the equator. This part of the Weimar globe has a pasty appearance and this difference between the globes is clearly the result of a botched restoration of the Weimar globe.

*Hec pars huius insulae inventa est ex mandato Regis Castelle*. [This part of this island was discovered by order of the King of Castile.] Waldseemüller gives *Tota ista provincia inventa est per mandatum regis Castelle*, and there are similar legends on the Cantino and Caverio maps. This legend may be seen in Fig. 34.

*Terra ultra incognita*. Waldseemüller has the same legend, indicating that the western part of the continent is unknown (see Fig. 34).

*Grandis fl*. The Cantino, Caverio, and Waldseemüller maps have *Rio grande*; HARRISSE, *Discovery*, p. 318 identifies this as the Amazon (see Fig. 8).

*Golffus fremosus*. Waldseemüller gives *Gorffo fremoso* and places a Spanish flag at the entrance to the gulf. HARRISSE, *Discovery*, p. 319 indicates that the name should in fact be *fermoso* (i.e. *hermoso*, "beautiful").

*Canibales*. Also on Waldseemüller. In the *Luculentissima* ff. 60r–60v Schöner writes: *Homines in ea etiam sunt Canibales dicti Antorpophagi inimicos suos deuorantes* [The men in America are cannibals, also called anthropophagi, and they eat their enemies]. These cannibals come from Vespucci's account of his third voy-

age (1501–02): While his ships are 5° south of the equator, one of his men is killed, roasted, and eaten while the others watch helpless from the ships. On both Schöner's 1515 globe and Waldseemüller's 1507 map the cannibals are 5° south of the equator Vespucci's account of his voyages was printed with the *Cosmographiae introductio* by Waldseemüller and Ringmann.<sup>41</sup>

- S. *Rochy*. Waldseemüller has *S. Rochi*, and the Caverio map *Sam Rocho*; this is the modern Cabo de São Roque.<sup>42</sup> Waldseemüller (properly) applies the name to a cape with a river nearby, whereas Schöner seems to apply the name to the river. Explorers often named coastal features after the saint on whose feast day the features were discovered, and several features on the Brazilian coast explored by Vespucci are named for saints whose feast days are in chronological sequence as we proceed from north to south. We do not have Vespucci's chart of his discoveries or the detailed account (more detailed than the account in his letters) that he wrote, but scholars have deduced that these sequential names on the Brazilian coast must have been named by Vespucci, and the names copied onto maps from documents related to his voyages before those documents disappeared. In the case of *S. Rochy*, the name was probably given by Vespucci on August 16, 1501 (see HARRISSE, *Discovery*, p. 319, and STEVENSON, *Marine World Chart*, p. 52).<sup>43</sup>
- S. *Vincentij mons*. Waldseemüller has *mons s. vincennj*, and Caverio *Monte de sam vicenso*. The source of this name is unknown. As STEVENSON, *Marine World Chart*, p. 53, indicates, the name suggests a discovery date of January 22, and this does not fit the sequence of discoveries made by Vespucci in this area (see Fig. 8).
- C. *Sancte Crucis*. Waldseemüller has *Caput sancte crucis*; this cape was named by Pedro Álvares Cabral on April 23, 1500—see HARRISSE, *Discovery*, p. 319.<sup>44</sup> On the Frankfurt globe and the Library of Congress gores (see Figs. 6 and 4, respectively) this toponym appears in the Atlantic just to the east of the cape, but there is no trace whatsoever of this name on the Weimar globe, not even the slightest break in the pattern of waves. Further, the ecliptic line passes several degrees to the north, and it is clearly labeled *Ecliptica linea* on the Frankfurt globe. On the Weimar globe, however, there is no such label, nor any sign that there ever was such a label. In addition, the patterns of the waves in these parts of the two globes are completely different, and it seems clear that the Weimar globe has been aggressively and incorrectly restored here.
- S. *Franciscus*. The toponym names the adjacent river; Waldseemüller gives *Rio de S. Francisto*; see HARRISSE, *Discovery*, p. 319, and STEVENSON, *Marine World Chart*, pp. 52–53, who suggest that the name was given by Vespucci (and recorded in the now-lost map of his discoveries) on October 4, 1501.

*Ex mandato Regis Portugalie pars hec insule huius Australior inventiur.* [By order of the King of Portugal the southern part of this island was discovered.] This



legend, which is written offshore in the Atlantic, is damaged on the Frankfurt globe, whereas on the Weimar globe there are only the faintest traces of it in a vague opening in the pattern of waves; the part of the legend which survives on the Library of Congress gores (see Fig. 4) is easily legible. Waldseemüller on his 1507 map gives: *Iste insule per Columbum genuersem almirantem ex mandato regis Castelle inuente sunt*<sup>45</sup>; the Cantino and Caverio maps have *Toda esta terra he descoberta por mandado del Rey de castella*.

S. Lutie. Waldseemüller has *Rio de S. Lucia*; see HARRISSE, *Discovery*, p. 320, who suggests that this name was given by Vespucci on December 13, 1501, during his third voyage.

[naked native man] On the Frankfurt globe (see Figs. 6 and 33) and the Library of Congress gores (see Fig. 4) the man's right forearm is raised, whereas on the Weimar globe it points downward and the right hand is missing; the darkness of the outline of the whole right side of his body indicates that the image on the Weimar globe has been restored. There is no depiction of a man in South America on the Cantino, Caverio, or Waldseemüller maps, or on the Green Globe; in fact, the only cartographic depiction of a New World native earlier than that on Schöner's 1515 globe is that of the cannibals on the "Kunstmann II" map of c. 1502–06.<sup>46</sup> On f. 60r of the *Luculentissima* Schöner gives a brief physical description of the natives of (South) America: *In ea sunt homines brutales procures ac eleganti staturae... virilis ac foeminini etiam sexus homines non aliter quam eos mater peperit ire consueti sunt* [The men there are brutish, tall, and of elegant stature... the men and even the women are accustomed to go about just as their mother bore them (i.e., naked)].<sup>47</sup>

*Abbatia omnium sanctorum*. [Abbey of All Saints.] Waldseemüller also gives *Abbatia omnium sanctorum*, but the Cantino map has *A baia de todos sanctos*,<sup>48</sup> and the Caverio map *baie de tuti li santi*, (i.e., the Bay of All Saints). For these readings see HARRISSE, *Discovery*, p. 320; for discussion of the erroneous change from bay to abbey see his pp. 302 and 452 and also STEVENSON, *Marine World Chart*, p. 54. Vespucci named this feature during his fourth voyage, but the cartographers of the Cantino and Caverio maps must have had access to manuscript sources on that voyage, because both the original Italian edition of Vespucci's description of his voyages, as well as the Latin version printed with Waldseemüller and Ringmann's *Cosmographiae introductio*, and the feature is described as an abbey rather than a bay.<sup>49</sup> It is therefore not surprising that Waldseemüller and Schöner should make this error. This toponym is much more readily legible on the Library of Congress gores than it is on the Frankfurt globe, and it does not appear at all on the Weimar / Dreden globe. Further, on the Frankfurt globe the toponym is located offshore in the Atlantic, and there is a break in the wave pattern to make room for the inscription,

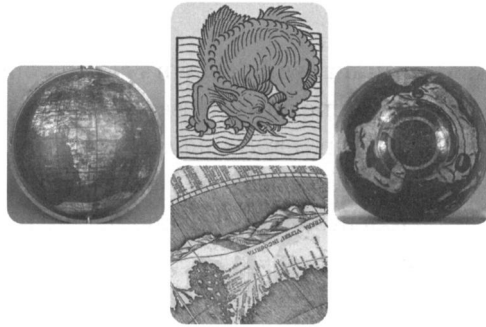
but there is no sign either of the toponym or of the break in the waves on the Weimar globe. This is further evidence of an aggressive “restoration” of the Weimar globe.

*Pasqua m.* Waldseemüller has *Montpasqual*; see HARRISSE, *Discovery*, p. 320; this was the first land in the continent seen on April 22, 1500, by Pedro Álvares Cabral and so named by him.<sup>50</sup>

S. *Thome serra*. Waldseemüller has *Serra S. Thome*; see HARRISSE, *Discovery*, p. 320, and STEVENSON, *Marine World Chart*, p. 56: the name was probably given by Vespucci on December 13, 1501. The coasts here are quite different on the two globes: bay on the the Weimar globe has a northern lobe that is absent on both the Frankfurt globe (Fig. 6) and the Library of Congress gores (Fig. 4).

[image of a bird] The Cantino and Caverio maps both show red parrots in South America; Waldseemüller has a bird labeled *Rubei psitaci* (i.e., red parrots) further to the north; in the *Luculentissima* f. 60r Schöner writes of America *Ibi rubei Psitaci: & etiam diuersi coloris ex eis ibi reperiuntur* [There are red parrots there and even parrots of other colors are found there].<sup>51</sup> The bird’s beak is closed on the Frankfurt globe and the Library of Congress gores (see Figs. 6 and 4, respectively), but open on the Weimar globe, and the dark outline of the bird on the latter stands in sharp contrast to the faded toponyms elsewhere on the continent: The parrot on this globe has been restored. The parrot on Schöner’s globe is generic in appearance—Waldseemüller’s parrot is much more realistic—and shows no sign of influence of the image of the parrot in the *Hortus sanitatis*, “De avibus,” Chap. 102.

[southern tip of South America] On Waldseemüller’s 1507 map the southern part of South America is not depicted, but is cut off by the map’s border, whereas Schöner famously depicts the southern tip of South America at about 44° south, a strait, and then an annular continent to the south that is labeled *BRASILIE REGIO* just south of the strait (see Figs. 4, 6, and 37). Schöner thereby seems to depict the Strait of Magellan several years before Magellan discovered it in 1520, although the Strait of Magellan is some 8° further south. Schöner’s source for this strait was a rare German pamphlet, *Copia der Newen Zeytung aus Presillg Landt*, according to which a Portuguese expedition of two vessels had tried to sail through this passage from the east, but was forced back by contrary winds.<sup>52</sup> In the *Luculentissima* ff. 61r–61v Schöner describes the strait, saying that it was discovered by the Portuguese and comparing it with the Strait of Gibraltar.<sup>53</sup> I will transcribe and translate the full text of Schöner’s description of *Brasiliae regio* in Appendix 3.



## CARIBBEAN

Schöner devotes little space to the Caribbean in his *Luculentissima*: on f. 60v there is a paragraph on *Spagnolla insula* (Hispaniola) and on f. 61r there is a sentence on *Isabella insula* (Cuba) and a list of a few Caribbean toponyms (*Sarmento Magna: Saura: Carii, Matubisa: Ianucanaca: Incaio*) with no elaboration, and four of these names (*Sarmento, Magna, Saura, and Matubisa*) do not appear on the globe (see Fig. 6), though they are on Waldseemüller's 1507 map. This constitutes another instance of Schöner's de-emphasis of the New World on his 1515 globe. The Caribbean toponyms on the Weimar globe are very faded, but most are still legible and appear not to have been restored. The Caribbean may be seen in Figs. 2, 4, 6, and especially 7.

[sea monster north of *Spagnolla*] The monster is a very large fish swimming to the west; it is showing its teeth and has either ears or tufts of flesh pointing back on the sides of its head (see Fig. 7). Waldseemüller has some legends on his 1507 map that mention sea monsters, but he does not represent any, and has no such legend in this area; moreover, no sea monsters are represented on the Cantino or Caverio maps. There are sea monsters on Martin Behaim's 1492 globe (Nürnberg, Germanisches Nationalmuseum, WI 1826), and it seems

likely that Schöner was familiar with Behaim's globe,<sup>54</sup> but Behaim does not place a sea monster in this same area. The sea monster does not correspond closely to any of the creatures in *Hortus sanitatis*, "De piscibus," which Schöner used as a source for some of his other sea monsters. The monster on the Weimar globe has been redrawn: It lacks the mouth and large eye of the monster on the Frankfurt globe, and the vertical lines on the monster's side are clearly adventitious.

*Babueca*. The name probably refers to the islands and cays of the Turks Bank north of Hispaniola. This island also appears on Waldseemüller; Gonzalo Fernández de Oviedo y Valdés, *Historia general y natural de las Indias* (first published 1535–57), Book 19, Chap. 15, writes: *Y desde la isla de Sanct Joan, dicha Boriquén [i.e., Puerto Rico], corriendo al Norueste cincuenta leguas, están los bajos que llaman de Babueca* [And from the island of Saint John, called Boriquen, sailing northwest for fifty leagues, are the shoals they call Babueca].<sup>55</sup>

*Isabella*. This is Cuba, discovered by Columbus on his first voyage (1492–93).<sup>56</sup> The sentence about the island in the *Luculentissima* f. 61r just mentions its gold.

*Iamaica*. This name is illegible on the Weimar globe; Waldseemüller gives *iamaiaua*. The island was discovered by Columbus on his second voyage (1494–96).

*Spagnolla*. This is Hispaniola, discovered by Columbus on his first voyage (1492–93). In the *Luculentissima* f. 60v Schöner says that some say that the island is part of Ophir; that the natives have no iron, are naked, and worship the sky, sun, and moon; they eat the roots of trees; they have little gold, and what they have they use as jewelry in their ears and noses; there are no quadrupeds except rabbits, but many snakes, and also turtle-doves, geese, and parrots; and gum mastic, aloe, silk, cinnamon, and ginger are found on the island.<sup>57</sup>

*Ianuca*. Schöner in his *Luculentissima* f. 61r and Waldseemüller give *ianucanaca*; Juan de la Cosa in his map<sup>58</sup> of 1500 *Janucanata*; Caverio *janucanaca*; Giovanni Matteo Contarini in his map<sup>59</sup> of 1506 *anicanaca*. Valentini says that this island represents the Turks.<sup>60</sup>

*Cary*. This name is illegible on the Weimar globe; Schöner in his *Luculentissima* f. 61r gives *carii*, and Waldseemüller *carij*. The same island is named *haly* or *haty* on the Cantino map, of which Valentini p. 186 says "the large island surrounded by reefs, which bears the name of *haty*, seems to represent the modern Cat Island, the great Exuma, and the girdle of reefs that embosoms what is today called the Exuma Sound." On the Caverio map it is *caty*.

*Incaio*. The same name appears on Waldseemüller's map; this is an error for *lucayo* that appears on the Juan de la Cosa map, *ilha de lucayo* on the Cantino map, and *y de incaio* on the Caveiro map; which Valentini p. 186 says represents Mouchoir carré or Handkerchief Shoal in the Bahamas.<sup>61</sup>

*Borique*. Waldseemüller gives *boriquen*; this is Puerto Rico, discovered by Columbus during his second voyage (1493–94). There is a good account of the discovery and early history of Puerto Rico in Gonzalo Fernández de Oviedo y Valdés, *Historia general y natural de las Indias*, Part 1, Book 16.<sup>62</sup>

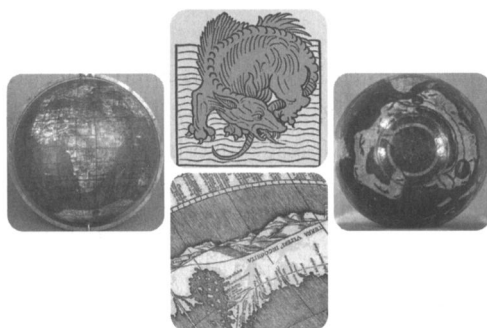
[ship] The ship sails eastward (see Figs. 2, 6, and 7), perhaps with the implication that it just traversed the mythical passage between the northern and southern parts of the New World depicted on the globe. The ship on the Weimar globe looks like it has been redrawn. There is only one ship on Waldseemüller's 1507 map, that off the eastern coast of South America.

*Riqua*. The toponym is barely legible on the Weimar globe; more importantly, on the Frankfurt globe there are two islands, one directly south of the toponym, and another smaller island just to the east; on the Weimar globe there is no sign of this second island. The pattern of the waves around these islands is also different on the two globes, and it is clear that this area has been restored on the Weimar globe. Waldseemüller has two islands, each named *riqua*<sup>63</sup>; the Cantino map has one island labeled *Tamarique ilha riqua* (see Harris, *Discovery* pp. 317 and 326), and Caverio has *tamarique yarqua*; Oviedo, *Historia general y natural de las Indias*, Book 17, Chap. 17, identifies *isla rica* with the Yucatán.

*Gigant*. Waldseemüller has *insula de gigantibus* [Island of Giants]; the Cantino map has *Ylha do gigante*, and Caverio *insula de gigantes*. The island comes from the Vespucci's account of his second voyage in which he says that he found an island inhabited by giants. In the original Italian of his account he calls the island *lisola de giganti*, whereas it is called *gigantum insula* in the Latin translation published with the *Cosmographiae introductio* (see the bottom of Fig. 7).

*Canibales*. This island also appears on the Cantino, Caverio, and Waldseemüller maps, but the source of this designation is not clear. Columbus hears a report of an island of cannibals on his first voyage,<sup>64</sup> but the possibility of a connection between Columbus's account and this island is not clear (see Fig. 8).





# NORTH ATLANTIC

In this section I will address toponyms and features in the Atlantic south to the equator. There are several clear signs that this part of the Weimar globe has been substantially redrawn, as I will detail shortly. As Schöner mentions the discovery dates of some Atlantic islands, we may remark here that an interesting *terminus post quem* for the medieval discovery of such Atlantic islands as the Azores is provided by a remark in the brief text, “De insulis minoribus,” in Marino Sanudo’s *Liber secretorum fidelium crucis* of c. 1320 (six manuscripts of which have world maps by Pietro Vesconte), which says that *Ultra Gades, per regna Yspaniae, Portugaliae et Galitiae, non inveniuntur insulae alicuius valoris*, [Beyond Cádiz, along the kingdoms of Spain, Portugal, and Galicia, no islands of any value are found].<sup>65</sup>

*Arcticus circulus*. Arctic Circle.

*Mare glaciale*. Frozen sea.

*Islandia*. This is Iceland;<sup>66</sup> Waldseemüller gives *island*. In the *Luculentissima* f. 18r Schöner gives a paragraph of description of the island, devoting more space to it than he does to Ireland or England, no doubt because it was more exotic. He says that the island was unknown to Ptolemy, and is relegated by perpetual ice to the remotest part of Europe. The rock *crystallus* is found there

(see Isidore, *Etymologiae* 16.13 and *Hortus sanitatis*, "De lapidibus," Chap. 39). There are white bears on the island, and the inhabitants use the skins of these bears and other animals for clothes; they can gather a high-quality salt by digging, which they both export and use for preserving stockfish and sturgeon, which they then export.<sup>67</sup>

*Litus incognitum*. This island, which represents the eastern coast of Newfoundland, first appears on the Cantino map, where it is *Terra del Rey de portugall* and bears a legend ascribing its discovery to Gaspar de Corte Real.<sup>68</sup> The Corte Reals' voyage took place in 1500–01; two of the three ships returned, but Gaspar was lost with the third ship. The island appears without label on the Caverio map; Waldseemüller labels it *litus incognitum* and adds a Portuguese flag. Schöner has an uninformative note on the island in the *Luculentissima* f. 61r, mentioning that this land remained *incognitum* to Columbus (i.e., he did not discover it). On the Weimar globe this island is not labeled, and there are other differences between the islands on the two globes: There is a small peninsula on the Frankfurt globe that juts into the bay, but this peninsula is absent on the Weimar globe; further, there are seven small islands east of the main island on the Frankfurt globe, but only six on the Weimar globe. It seems that the island on the Weimar globe has been redrawn. It is worth remarking that on the Green Globe the little islands are quite curiously located west of the *litus* rather than east of it as they are on Schöner's globe and the Cantino, Caverio, and Waldseemüller maps.

*Hybernia*. Ireland. Schöner has a brief paragraph about the island in his *Luculentissima* f. 18r, saying that Pope Celestinus sent Saint Patrick to convert the island to Christianity, and mentioning the Purgatory of St. Patrick<sup>69</sup> and the precious stones *gagates* and *iris* found on the island. On the Frankfurt globe the eastern coast of the island has a bay (perhaps intended to represent Dundalk Bay) that does not appear on the Weimar globe. Together with the darkness of the line marking the eastern coast on the Weimar globe this clearly indicates that the eastern coast of the island has been redrawn.

*Scotia—Anglia*. Schöner has brief paragraphs about them in his *Luculentissima* ff. 18r–18v. The coast has been redrawn on the Weimar globe, but accurately this time.

*Germanicum*. Short for *Mare Germanicum*, the North Sea. Waldseemüller gives *MARE GERM[A]NICUM*.

*Viridis insula*. [Green Island.] (see Fig. 7). The island has the same name on Waldseemüller; Schöner mentions it very briefly on f. 61r of the *Luculentissima*, giving nothing more than its coordinates. A non-Ptolemaic fifteenth-century nautical chart bound into a manuscript of Ptolemy's *Geography* that is Paris, BnF, MS Lat. 4801, has the legend *Insula viridis, de qua fit mentio en geografia*

[Green Island, which is mentioned in the geography] and this is the earliest cartographic depiction of the island that I know.<sup>70</sup> The island is probably a duplicate of Greenland, information of which may first have reached central Europe in Adam of Bremen's *Gesta Hammaburgensis ecclesiae pontificum* (1076), who briefly describes it in his Book 4 ("Descriptio Insularum Aquilonis"), Chap. 36.<sup>71</sup>

[ship south of *Viridis insula*]. (see Fig. 7). The ships are different on the two globes: On the Weimar globe the sail does not cross to the left side of the mast as it does on the Frankfurt globe, and the mast on the Weimar globe lacks a crow's nest.

*S. Georgij*. These islands are the Azores. On Waldseemüller's 1507 map this is the name of one of the islands. Schöner's gives the islands' names, but no further information about them under the rubric *Septem insulae* in his *Luculentissima* f. 61r<sup>72</sup>; on his 1520 globe he uses the name *Insule solis* [Islands of the Sun] for the group.<sup>73</sup>

[sea monster to the west] This sea monster does not appear on the Weimar globe at all, and the pattern of the waves is not the same in this area on the two globes. Again this is evidence of a radical restoration of the Weimar globe. The sea monster on the Frankfurt globe (see Figs. 6 and 7) bears some resemblance to the representation of the *spinachia* in the *Hortus sanitatis*,<sup>74</sup> "De piscibus," Chap. 84, but the resemblance is not as close as it is in other cases.

*Tropicus cancri*. Tropic of Cancer.

*Gades*. Modern Cádiz. The Weimar globe has the name *Gades*, but it lacks the island that is immediately above the name on the Frankfurt globe (see Fig. 10); in fact, the whole western coast of the Iberian Peninsula has been redrawn on the Weimar globe. The Frankfurt globe has a small westward-jutting peninsula just south of the island of Gades, and a larger one (*C. S. Vincentis*) north of it; these do not appear on the Weimar globe.

*Porta s[an]cta*. The spelling *Porto santo*, which is what Waldseemüller gives, is more usual, but Schöner also spells the name *Porta sancta* on f. 61r of the *Luculentissima*, where he says that the island produces the best honey in the world, abounds in grain and cattle, and has rabbits. "Dragon's blood" is collected from trees on the island which produce a very good fruit similar to cherries but of a golden color<sup>75</sup> (see Fig. 10).

*Medera*. Madeira. Waldseemüller spells it *Madera*; the name is invisible on the Weimar globe. Schöner has a long paragraph on *Medera* in the *Luculentissima* f. 61r, which is mostly on the island's natural products. He also mentions that the island was discovered in 1455, though in fact it was discovered by João Gonçalves Zarco, Tristão Vaz Teixeira, and Bartolomeu Perestrelo in 1420<sup>76</sup> (see Fig. 10).

[sea monster] This monster (see Figs. 7 and 10, and also the righthand edge of Fig. 4) is an exact copy of the lower of the two sea monsters illustrated in the *Hortus sanitatis*, "De piscibus," Chap. 28 (see Fig. 11); the two monsters do not correspond well to the two descriptions in the chapter, so it is not easy to be sure whether the lower monster is the *dies* or the *dendrix*, but it is probably a *dendrix*.<sup>77</sup> The identification of Schöner's iconographic source here offers intriguing insight into his methods. The sea monster on the Weimar globe is incomplete: Its body and head are missing, and only the curious "shell" on its back remains. There is also a small island on the Weimar globe to the west of the "shell" that does not appear on the Frankfurt globe.

*fortunate*. The Fortunate Islands (i.e., the Canaries), which had been known in classical antiquity<sup>78</sup> and were rediscovered in the fourteenth century.<sup>79</sup> The name is faded almost to illegibility on the Weimar globe; the *Luculentissima* f. 38v says that the Fortunate Islands are also called the Great Canaries after the large and aggressive dogs (*canes*) that live there; the people eat bread and goats, but have no wine, and there are ten islands in the group.<sup>80</sup> Waldseemüller gives the names of the individual islands (see Fig. 10).

*Tropicus Cancrī*. The words are invisible on the Weimar globe.

[ship just off the coast of West Africa] This ship stands in front of the line of latitude on the Frankfurt globe (see Fig. 10), but behind it on the Weimar globe: This seems to be the result of a heavy-handed redrawing of the line of latitude on the Weimar globe.

*S. Anthonii*. These are the Cape Verde islands (see Figs. 7 and 10); Waldseemüller names ten islands in the archipelago, whereas Schöner names five on his globe but ten in his *Luculentissima* f. 61r under the rubric *Insulae decem*, adding that they are beautiful and fertile and were discovered under Henry the Navigator in 1472.<sup>81</sup> On the Weimar globe neither the name *S. Anthonii* nor the island itself is visible. For more on this island group see the commentary on *Insule Portugales*[?]... following.

*Lutīe*. One of the Cape Verde islands (see preceding). On the Weimar / Dresden globe the outline of the island is barely visible—and a wave line has been drawn over it (see Figs. 7 and 10).

*Alba*. One of the Cape Verde islands (see preceding and also Figs. 7 and 10).

*Visionis*. This is the *Isola di Buona Vista*, so named by Alvise Cadamosto, who discovered this archipelago, probably in 1456<sup>82</sup> (see Figs. 7 and 10).

*Iacobi*. This is another of Cadamosto's original names; it is faded to illegibility on the Weimar globe.

*Insule Portugales*[?] *sunt tempore Hurici inuente Anno domini 1472*. [Islands of the Portuguese discovered in the time of Henry in the year 1472.] This legend describing the Cape Verde islands is difficult to read on the Frankfurt globe

(see the lower right corner of Fig. 7), completely illegible on the Weimar globe, and is not included on the fragmentary Library of Congress gores. Waldseemüller gives *Insule Portugalensium inuente tempore herici infantis Anno 1472*; Schöner in his *Luculentissima* f. 61r writes *Valde pulchrae & fertiles Portugalensium inuentae tempore Herici infantis. Anno domini .1472*. This date is wrong both because the islands were actually discovered c. 1456, and because Henry the Navigator died November 13, 1460, so the islands cannot have been discovered in 1472 and during Henry's time.<sup>83</sup> On December 3, 1460, King Affonso V granted one of the Cape Verde islands to Prince Fernando,<sup>84</sup> and the charter for the islands was issued in 1466.<sup>85</sup> The islands are well portrayed in Grazioso Benincasa's atlas of 1468, which is London, British Library Add. MS 6390, f. 9.<sup>86</sup>

*Occidentis Oceanus*. On the Weimar / Dresen globe the word *Ocean* [sic] has been shakily handwritten, strong evidence of the globe's restoration.

*Equinoctialis circulus*. The equator. Not visible on the Weimar globe.

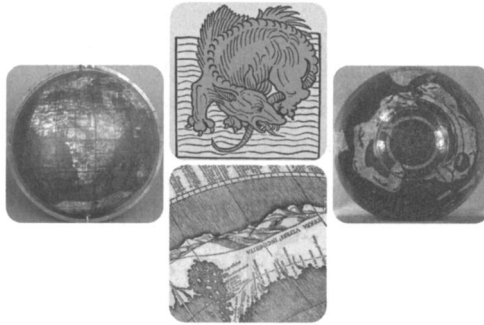
*Zodiacus*. Invisible on the Weimar globe, damaged on the Frankfurt globe.

*Sinus Hespericus*. The "Western Gulf." This comes from Ptolemy 4.6 (see Fig. 10). [ship] just north of the equator. The ship is different on the two globes: the lower part of the ship's hull on the Weimar globe has vertical hatching marks that are completely absent on the Frankfurt globe and Library of Congress gores (see Figs. 1 and 3). The ship on the Weimar globe has been redrawn rather heavy-handedly.

*Sinus magnus Aphrice*. The "Great Gulf of Africa." The word *Aphrice* has faded to invisibility on the Weimar globe, whereas the earlier words have been rewritten.

*formosa*. This island was sighted by Fernão do Pó, probably in 1472; first it was called Formosa ("Beautiful"), then Fernando Po, and now Bioko.<sup>87</sup> For Schöner's note in the *Luculentissima* on the discovery of *formosa* and *principis* see later on *S. Thom*.

*principis*. This is the Ilha do Príncipe; neither the island itself nor the name appears on the Weimar globe, which has been damaged in this area.



## SOUTH ATLANTIC

S. *Thom.* The island of São Tomé. There seem to be some faint traces of the toponym on the Weimar globe, but there is no trace whatsoever of the island itself, and it seems that the sea in this area, as in many others on the Weimar globe, has been redrawn. In the *Luculentissima* f. 40r Schöner says that this island and *formosa* and *principis* were discovered in 1484<sup>88</sup>; originally, there was nothing on them but woods and many birds, but now they are inhabited by the Portuguese.<sup>89</sup>

*Ecliptica Linea.* This notation is to the west, near South America; it does not appear on the Weimar globe.

[ship near C. *Sanctae Crucis* on the eastern coast of South America] (see Fig. 6). On the Weimar globe the crow's nest and flag are missing, and it is clear that this ship has been redrawn on that globe, though in this case for the most part accurately. It is worth mentioning that this ship is in essentially the same position as the only ship on Waldseemüller's 1507 map (see Fig. 5).

[sea monster in the central Atlantic]. The image of the monster is clearer on the Library of Congress gores (see Fig. 3) than it is on the Frankfurt globe (see Fig. 1). There is no trace of this monster on the Weimar globe, and it seems that the wave pattern in this whole region of the South Atlantic has been redrawn. The monster's face is similar to that of the monster in the northern Caribbean,

but the body is much more scaly. It is not a particularly close match to any of the sea monsters in the *Hortus sanitatis*, but is similar to the *squatina* in Chap. 84 of the section, "De piscibus."<sup>90</sup>

[sailing route around Africa] I will discuss this route together with the descriptive text in Schöner's *Luculentissima* f. 39v (which I will transcribe and translate in Appendix 4) following my remarks on the legend *Nove navigationis observatio novissima*, but here it must be noted that even though the whole route is clear on the Frankfurt globe (see Fig. 1), and that the route is clear on the surviving fragments of the Library of Congress gores (see Fig. 3), on the Weimar globe the long eastward portion of the voyage between the equator and the Tropic of Capricorn has disappeared. The line fades to invisibility just south of the equator—in the midst of clear, dark lines indicating waves. This is strong evidence confirming that the wave pattern has been redrawn on much of the Weimar globe.

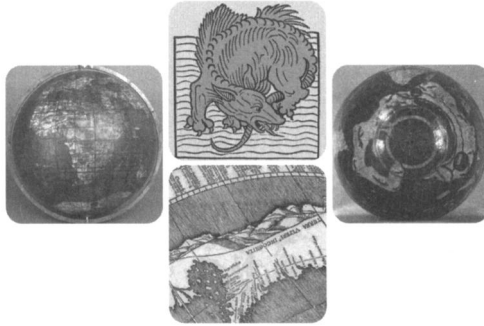
*Capricorni circulus*. The Tropic of Capricorn. The words are faded almost to invisibility on the Weimar globe.

*Septem formose insule*. [Seven beautiful islands] (see Fig. 6). The legend has faded almost to invisibility on the Weimar globe; on f. 61r of the *Luculentissima* Schöner calls them *Septem insu. pulchrae* [Seven beautiful islands] and gives their position, but no further details about them; Waldseemüller labels the islands *insule .7. delle pulzelle* [Seven islands of the maidens] and marks them with a Portuguese flag. These islands apparently owe their origin to a mixture of the legends of the virgins of St. Ursula with that of the islands of St. Brendan.<sup>91</sup> On the 1339 nautical chart of Angelino Dulcert (Paris, Bibliothèque nationale de France, Ge B 696 Rés.),<sup>92</sup> the islands of St. Brendan appear in the Atlantic southwest of the Strait of Gibraltar and are labeled *Insulle Sancti Brandani siue puelarum* [Islands of St. Brendan or of the maidens]; and on the 1367 nautical chart of the brothers Pizzigani (Parma, Biblioteca Palatina, Carta nautica no. 1612),<sup>93</sup> the islands bear the legend *ysole dicte fortunate siy isole ponçe le brandany* [islands called blessed, or islands of the maidens of Brendan].<sup>94</sup> These islands were evidently moved to the southwest at some point and the association with Brendan was dropped, resulting in the islands we see on Waldseemüller's map, Schöner's globe, and several other maps.

[small ship near S. *Thome serra* on the eastern coast of South America]. This part of the Frankfurt globe is damaged, but the ship is perfectly clear on the Library of Congress gores (see Fig. 4); there is no trace at all of the ship on the Weimar globe, further evidence that that exemplar has been heavily "restored." It is worth mentioning that Jomard in his printed facsimile of the globe merely indicates a curved object here rather than a ship; this lapse was due to his consultation of the Frankfurt globe, where the image is unclear.

[ship west of the Cape of Good Hope] (see Figs. 1 and 3). The location of the ship is no doubt intended to suggest the possibility of rounding the Cape, as indeed the sailing route traced on the map already indicates. The ship on the Weimar globe has been redrawn, but quite accurately in this case.





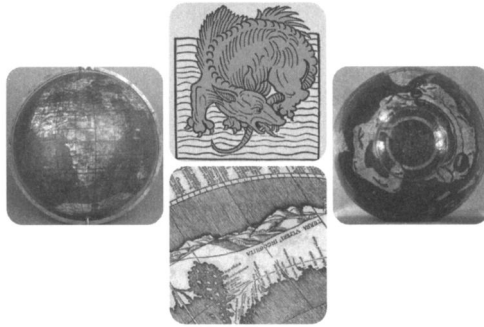
# THE NORTHERN POLAR REGIONS AND FAR NORTHERN EUROPE

Schöner discusses northern Europe in ff. 22v–23r of his *Luculentissima*; he does not describe any land north of 67°, but on his globe there is a landmass occupying most of the northern polar region above 80°, with a peninsula jutting south to about 68° north of North America, and the whole landmass joined to northern Europe by a tongue of land. This northern polar landmass has several chains of mountains. It is not clear where Schöner got the idea that there was a large landmass occupying the northern polar regions. Behaim also shows land on his globe of 1492 reaching from northern Europe up to the northern polar regions, but the disposition of the land at the North Pole on his globe is entirely different from that on Schöner's: Land reaching northward from Europe and Asia, together with several islands, form a broken ring of land around the North Pole.<sup>95</sup> This arrangement is based on the lost work *Inventio fortunata*, which was supposed to recount the northern voyage made by an English minorite from Oxford in 1360: According to this work there was a large mountain of lodestone at the North Pole that was the source of the earth's magnetic field; this mountain was surrounded by open water, and then further out by three large islands that together with a peninsula reaching northward from Norway form a broken ring of land around the Pole. The parts of this ring are separated by four large inward-flowing rivers,

which carry the waters of the oceans to the Pole with great force. The waters then disappear into an enormous whirlpool beneath the mountain at the Pole and are absorbed into the bowels of the earth.<sup>96</sup> In his 1507 map Waldseemüller shows the world all the way to 90° north, but has no land above about 80° north, and he has a legend paraphrasing Pomponius Mela 3.5, who gave Metellus Celer's report by way of Cornelius Nepos about some sailors from India who had been blown by storms all the way to the coast of Germany: It was assumed that the Indian sailors had been blown around Eurasia by the northern route rather than the southern; thus, the episode was taken as showing that there was open water along the northern coast of Eurasia.<sup>97</sup> In his depiction of the northern polar regions Schöner therefore departed from both the authority of Waldseemüller, and from that of Pomponius Mela. It should be remarked that Schöner's northern polar landmass is surrounded by water except for a land bridge that is essentially an inverse image of the southern polar regions on his globe, with its area of water surrounded by land except for the opening into the southern Pacific. It may be that Schöner believed that the northern and southern polar regions were topographic opposites of each other.<sup>98</sup> The northern landmass on the Green Globe of c. 1515 is quite similar to that on Schöner's 1515 globe, except that it extends down much closer to the coast of northeastern Asia.

*Engroueli.* Schöner in the *Luculentissima* f. 23r (misabeled 32) says that this land is called *Gronelandia* or *Engronelandia* and says that it is a peninsula of an inaccessible or unknown northern land; that the peninsula of *Nadhegrum* is there, and that a malignant spirit appears to people there.<sup>99</sup> Waldseemüller has no similar legend, so this is a clear case where Schöner was using a different source. It was interesting that it was evidently a map or document from the so-called Vienna-Klosterneuburg School (see Note 99). I do not believe that this channel of influence has been noted before. With regard to the placename, Waldseemüller gives *Engronelant*. This placement of Greenland is due to a distortion of Claudius Clavus's (b. 1388) map of Scandinavia in a map by Donus Nicolaus Germanus, which was used in the 1482 Ulm edition of Ptolemy's *Geography*, as well as later editions.<sup>100</sup>

*Pilape.* This is Lappland. The *Luculentissima* f. 23r (misabeled 32) has *Vuilldappmanni: quorum regio Pilappelandia*, and has a long paragraph describing the region, mentioning the area's trade, the pygmies (referring to scraelings) who live there,<sup>101</sup> and the great cold, and explaining that the area was unknown to Ptolemy, and that the inhabitants live more from fishing and hunting than from bread. Waldseemüller calls the region *pilapelant*.



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# SCANDINAVIA

*Gottia*. Schöner briefly refers to the silver and gold mines of this region on f. 23r (misabeled 32) of his *Luculentissima*.

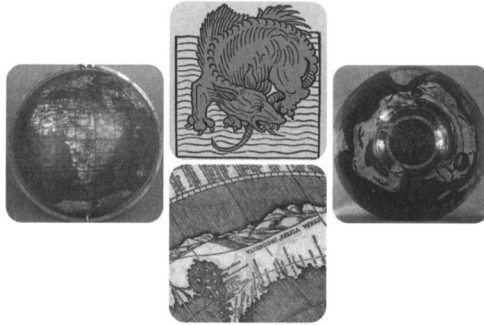
*Noruegia*. Schöner briefly describes Norway in his *Luculentissima* f. 23r (misabeled 32), saying that it has eighteen islands that are joined to the mainland by ice in the winter, and that the summers are not very warm there.<sup>102</sup>

*Got*. This is the island of Gotland in the Baltic Sea; Schöner mentions it very briefly in his *Luculentissima* f. 23v.

*Ventela*. The *Luculentissima* f. 23r (misabeled 32) gives *Ventelandia* as another name for *Vintlandia* (i.e., Finland), grouping it with *Vermelandia* (i.e., Värmland), and devoting just a sentence to them. Waldseemüller 1507 has *uermeland*, but no form of *Ventelandia*.

*Scania*. The *Luculentissima* f. 23r (misabeled 32) gives *Schondenmargk* as another name for *Scania* and *Dacia*.

*Suec*. This is Sweden. The *Luculentissima* f. 23r (misabeled 32) briefly remarks on the gold and silver mines in *Suetia* and *Gottia*; Waldseemüller gives *Suecia*.



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## WESTERN EUROPE

Less commentary is needed on these toponyms because the cartography of this region was very well known by the early sixteenth century. In general Europe is well preserved on the Weimar globe, with the exception of the western coast of the Iberian Peninsula as mentioned previously. The coastlines of southern France, Sicily, Greece, and northern Turkey have clearly been redrawn, but reasonably accurately. I will transcribe the toponyms reading north to south until reaching a convenient stopping point, then move to the east and again read from north to south.

*C. finis terre.* Cape Finisterre in northwestern Spain.

*C. S. Vincentis.* This cape is briefly mentioned in the *Luculentissima* ff. 18v and 19r.

*Gallicia.* Gallitia in the *Luculentissima* f. 18v.

*Portugal.*

*Hispani.* See the description in the *Luculentissima* ff. 18v–19r. On f. 18v Schöner briefly alludes to the voyage from Lisbon around Africa to India,<sup>103</sup> which is traced on his globe and described in detail on f. 39v of his *Luculentissima*; see Appendix 4 for a transcription and translation of his description of the voyage.

*Granat.* Granada; the name is damaged on the the Weimar globe; Schöner mentions the Reconquista of Granada on f. 18v of his *Luculentissima*, indicating that it took place in 1491 rather than 1492.

*Nauarre.* Navarre in Spain.

*Castili.* Schöner in his *Luculentissima* f. 18v mentions that *Castilia* is the realm of King Ferdinand, under whose orders Amerigo Vespucci discovered the Fourth Part of the world.<sup>104</sup>

*Arro.* Aragon.

*Catha.* In the *Luculentissima* f. 18v, *Cathalonia*.

*Flandria.*

*Francia.*

*Britani.*

*Turo.* In the *Luculentissima* f. 19r, *Turonia*: this is Touraine in France.

*galli.*

*Longedon.* Languedoc.

*rodanus.* Schöner describes the course of the Rhône in his *Luculentissima* f. 19v.

*datia.* Denmark; the initial "d" is missing on the Frankfurt globe, and from this point to the southwest there is a damaged area on this globe.

*phrisia.* Frisia.

*Rhinus fl.* In the *Luculentissima* f. 22v it is *Rhenus fl.*

*Pomerani.*

*Prussia.*

*Germania.* Schöner has a long description of Germany and its regions, mountains, forests, and rivers in the *Luculentissima* ff. 19v–22v.

*Bamberg.* The name is difficult to read on both globes, but the city's position agrees with what Schöner gives for it in his *Luculentissima* f. 29v (28°10', 49°56'). We would expect it to appear on the globe because Schöner gives a long description of the city (ff. 29v–30r).

*Vnga.* Hungary.

*EUROPA.*

*Suevia.* Swabia.

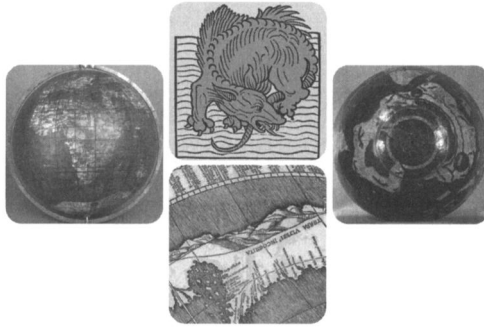
*Long.* This is *Longobardia*, i.e., Lombardy: see the *Luculentissima* ff. 34r–34v.

*Ven.* Venice; there is a brief description in the *Luculentissima* f. 34v, mentioning that although Venice had been famous as a trading center, it had recently fallen on hard times.

*Italia.* See the *Luculentissima* ff. 23v–24r.

*Dalmacia.* Dalmatia.

*Danubius fl.* The Danube.



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# CENTRAL EUROPE

*Russia alba*. White Russia.

*Nogardia*. Novgorod. There is sentence in the *Luculentissima* f. 56v on the city's importance in trade and wealth in silver and fur.<sup>105</sup>

*Riphei mon.* The Rhiphaean Mountains of the far North; see Pliny 6.5.15, Isidore 14.8.8, and Hallberg, *L'Extrême Orient*, pp. 434–435, s.v. "Riphaei montes."<sup>106</sup>

*Livonia*. Modern Latvia and Estonia.

*Littovia*. Lithuania.

*Russia*.

*Septem castra*. [Seven Forts.] In the *Luculentissima* f. 24v Schöner lists it according to its classical name *Iaziges Metanastae*, mentioning *septem castra* as the modern name, and then giving its vernacular name of *Siebenburgen* (Transylvania).<sup>107</sup> The letters "ca" are damaged on the Weimar globe.

*Vualachia*. In the *Luculentissima* f. 24v Schöner explains that this region used to be called *Dacia Scythiae*, but now *Vualachia magna* and *Transsylvania*.

*Zeruia*. Serbia. In the *Luculentissima* f. 24v Schöner indicates that this is the modern name of *Mysia superior*, which is the name Waldseemüller uses here (actually *Misia superior*).

*Tracia*. Thrace. See the *Luculentissima* f. 25r.

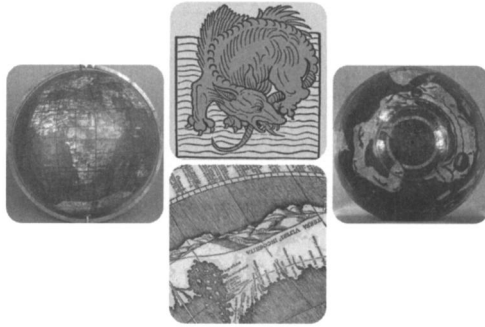
*Macedoni*. See the *Luculentissima* f. 25v–26r.

*Turchia*. Schöner places this toponym in Greece as well as in modern Turkey, probably to reflect Ottoman control of the area; Waldseemüller does not do the same.

*Grecia*. Greece.

*Achaia*. See the *Luculentissima* f. 26r.

*Morea*. The medieval and Renaissance name of the Peloponnese peninsula.



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# THE MEDITERRANEAN

As mentioned earlier, several sections of the coast of the northern Mediterranean have been redrawn on the Weimar globe, as evidenced by the darkness of the line marking the shore in those areas; however, the redrawing is generally accurate. There is a slight error in the redrawing of the eastern coast of Sicily: It is straighter on the Weimar globe than it is on the Frankfurt. I will transcribe the toponyms in the Mediterranean from west to east.

*Mediterraneum Mare.* The Mediterranean Sea.

*Minor.* Menorca. It is *Minorica insula* in the *Luculentissima* f. 19v; Schöner does not evince much interest in the Balearic Islands, just mentioning that it was there that the use of the sling was first discovered.<sup>108</sup>

*Maiorica.* Mallorca.

*Corsica.* Schöner devotes a short paragraph to the island's natural resources and inhabitants in the *Luculentissima* f. 24r.<sup>109</sup>

*Sardini[a].* There is a short paragraph about the island in the *Luculentissima* f. 24r.

*Sicilia.* Sicily. There is a good paragraph on all aspects of the island in the *Luculentissima* ff. 24r–24v: Schöner says that the island was once physically connected to Italy, but the strait later opened and separated it<sup>110</sup>; mentions the volcano of



Etna; says that the island belongs to the Crown of Aragon; the island is so rich in grain, crocus, honey, cheeses, wool, and valuable skins that it is known as the granary of Italy. This is where the Cyclopes of Homer lived (see *Odyssey* 9.105–566)<sup>111</sup> and the birthplace of Archimedes.

*Corfunā*. The island of Kérkira or Corfu. The name is barely visible on the Weimar globe; in the *Luculentissima* f. 26r Schöner lists the island under the name *Corcyra nigra insu*, but adds that it was known as *Corfunā* in his time, and mentions that this is the island on which Odysseus was shipwrecked and met the Phaeacians in Homer's *Odyssey*.<sup>112</sup>

*Libycum Mare*. The name is barely visible on the Weimar globe.

*Candia*. Modern Crete; Schöner in his *Luculentissima* f. 26v devotes just two lines to the island, saying that *vinum maluaticum* (malmsey) is made there, and that it was the birthplace of music.<sup>113</sup>

*Rhodus*. The "o" is not really visible on the Frankfurt globe. The description in the *Luculentissima* f. 44v focuses on the island's history.

*Cyprus*. There are just a few lines about the island in the *Luculentissima* f. 46v.

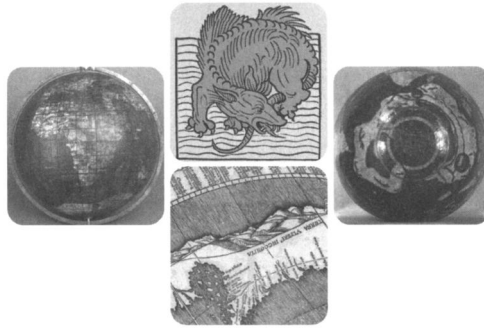
*Egiptiacum*. At the mouth of the Nile; the same on Waldseemüller; short for *Egiptiacum mare*, which is mentioned in the *Luculentissima* f. 36v.



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# AFRICA

**A**s in other contemporary maps, the coastal toponyms of Africa derive from recent (late fifteenth- and early sixteenth-century) explorations, whereas most of the names in the interior of the continent derive from Ptolemy (see Figs. 1 and 3).



## WEST AFRICA

There is a very significant difference between the West Africa on Schöner's 1515 globe and that on Waldseemüller's 1507 map: Waldseemüller, following Ptolemy, extends West Africa well south of the equator, and with it moves the islands of *formosa*, *principis*, and *S. Thome* south of their true locations. This error was first corrected by Henricus Martellus Germanus c. 1489: In his world map which is Yale University, Beinecke Rare Book and Manuscript Library, Art Store 1980.157, he shows western Africa extending well south of the equator as Ptolemy does, but in his world map from the same period in his *Insularium Illustratum*, London, British Library Add. MS 15760, ff. 68v–69r, he corrects his depiction of western Africa so that all of it is north of the equator; in fact, he adds a legend that says that this new, correct depiction of Africa is based on the explorations of the Portuguese.<sup>114</sup> Francesco Rosselli also depicts West Africa more correctly in his world map of c. 1492–93 which is in Florence, Biblioteca Nazionale Centrale, Landau Finaly, Planisfero Rosselli, and was produced in cooperation with or through the inspiration of Martellus. In this map the equator is indicated.<sup>115</sup> The Juan de la Cosa map of 1500 and the Cantino and Caverio maps are also correct in this regard; Waldseemüller in his 1507 map chose to follow Ptolemy, but Schöner did not follow Waldseemüller here, and Waldseemüller depicts West Africa much more

correctly in his 1516 *Carta marina*. The important point is that Schöner was not slavishly copying Waldseemüller.<sup>116</sup>

The West African toponyms on the Weimar globe are generally quite clear and seem not to have been restored, whereas those in southern Africa are generally very faded.

I will transcribe the toponyms beginning in the northwestern corner of the continent, reading north to south until reaching a convenient stopping point, and then move to the east and again read from north to south.

It has not seemed necessary to try to provide modern equivalents to all of the Ptolemaic place names that Schöner uses. If the reader wishes to explore this subject, some modern equivalents are supplied in the 1562 edition of Ptolemy,<sup>117</sup> and one may also consult Johann Georg Theodor Grässe, *Orbis latinus: Lexikon lateinischer geographischer Namen* (fourth edition Braunschweig: Klinkhardt & Biermann, 1971); William George Smith, *A Dictionary of Greek and Roman Geography* (London: J. Murray, 1878); and *Paulys Real-Encyclopädie der classischen Altertumswissenschaft* (Stuttgart: J. B. Metzler, 1894–1980).

*Vessa*. This is Fez. This name does not appear on Waldseemüller's 1507 map; the index of the *Luculentissima* gives *Vessa regio*, but the text on f. 36v has *Vesse regnum*, and briefly describes the region. On Waldseemüller's 1516 *Carta marina* he has *Fessa regnum*, and on Schöner's 1520 globe he gives *Fessa regnum* and places it to the southeast of its location on his 1515 globe.

*malva fl.* This is also on Waldseemüller's 1507 map; it comes from Ptolemy 4.1–2.<sup>118</sup> *Maurit tingani*. For *Mauritanea Tinganica*, which is the spelling in the *Luculentissima* f. 36v; the spelling *Mauretania Tingitana* would be more usual; see Ptolemy 4.1. *Maurita caesarica*. [?] For *Mauretania Caesariensis*; the name is difficult to read on the Frankfurt globe and Library of Congress gores, as the letters touch the parallel; on the Weimar globe the final "a" is missing in a small area that has been restored. Jomard on his facsimile includes only the first two letters of each of these two words. See the *Luculentissima* f. 37r and Ptolemy 4.2.

*Cabo boxadi*. This must be Cape Bojador. In the fifteenth century it was thought that the first to sail past Cape Bojador<sup>119</sup> was Gil Eanes (or Eannes) in 1434 or 1435<sup>120</sup>; however, the Cape appears on the Catalan Atlas of 1375 as *cavo de Buyetder*.<sup>121</sup> Indeed, the Atlas depicts Jaume Ferrer sailing well south of the Cape at the mouth of the Rio de Oro, and a legend on the Atlas says that he sailed for the Rio de Oro in 1346.<sup>122</sup> There was a similar legend on a lost late fourteenth-century Genoese map.<sup>123</sup> Mecia de Viladestes in his chart of 1413 also shows Ferrer sailing south of Cape Bojador, and even depicts two cities on the coast south of the Cape,<sup>124</sup> so it seems that there was some European activity south of the Cape before Gil Eanes sailed. Schöner's naming and placement

of the cape (both of which he retains on his 1520 globe) are a bit unusual. He places the cape north of the *Atlas mons maior*, in accordance with the position he gives to *Cabo Boxadi* (i.e., 27° N) in his *Luculentissima* f. 39v in the description of the sailing voyage around Africa, whereas Waldseemüller and other cartographers, such as Henricus Martellus, place the cape south of the *Atlas mons maior* at the Tropic of Cancer. In his *Luculentissima* f. 39v Schöner places the *Cabo de Gilo* at 30° N (he does not indicate this cape on his globe), a few degrees north of where Waldseemüller places the *Cabo gillom* (i.e., as with Cape Bojador, Schöner places this toponym further north than Waldseemüller). This adjustment to the north with respect to Waldseemüller is not surprising in and of itself, but it is surprising that Schöner did not also move the *Atlas mons maior* to the north, and as a result placed Cape Bojador on the wrong side of the mountains. It is clear that Schöner was not relying on Waldseemüller for the geography of this region.

*Atlas mons maior*. From Ptolemy 4.1. Both Schöner and Waldseemüller depict the mountain chain much as Ptolemy does, rather than drawing it in the palmtree shape typical of nautical charts.<sup>125</sup>

*Getulia*. The Roman name for what is now the inland territories of Tunisia and Algeria in Northern Africa. From Ptolemy 4.2 and 4.6, who locates it south of Mauritania (i.e., south of modern Morocco).

*Massa fl.* From Ptolemy 4.6; the identification of this West African river with the Wadi Massa in Morocco, south of Agadir, is possible but not certain.

*nigritis palus*. From Ptolemy 4.6; briefly mentioned in the *Luculentissima* f. 38v.

*Rio de .S. Joann*. There is no river of this name on Waldseemüller's 1507 map, nor indeed any river between the *Massa* to the north and the *Conaga* to the south; the Cantino map has *Rio de sam Juam*, whereas the Caverio map just has *Rio*.<sup>126</sup> In the *Luculentissima* f. 39v in his description of the voyage around Africa Schöner gives *Rio de San Ioann*.

*Conaga*. Schöner gives *Conaga* in his *Luculentissima* f. 39v in the description of the voyage around Africa, and Waldseemüller *Rio de canaga*. This is the Senegal River, and Waldseemüller in his 1516 *Carta marina* has *Rio de Senega* here.

*C Viride*. The Green Cape. Waldseemüller has *caput viridum*.<sup>127</sup> The Cape was discovered by Dinis Dias in 1444,<sup>128</sup> and appears on Andrea Bianco's nautical chart of 1448 (Milan, Biblioteca Ambrosiana, MS F. 260 Inf. N. 1)<sup>129</sup>; the Cape was of course the source of the name of the Cape Verde islands.

*Rio de Gambia*. The River Gambia.

*Leuce*. Also on Waldseemüller; short for the *Leucaethiopes* of Ptolemy 4.6 and Pliny 5.8.43, a tribe in western Africa.<sup>130</sup>

*Cabo Roxo*. The Red Cape; mentioned on f. 39v of the *Luculentissima* in the description of the voyage around Africa; the cape still has this name today. The

earliest appearance of this cape on a map is on Andrea Bianco's nautical chart of 1448.

*Serra Lyon*. Sierra Leone. Mentioned on f. 39v in the *Luculentissima*, it first appears as *Serralioa* in Grazioso Benincasa's atlas of 1468, which is London, British Library Add. MS 6390.<sup>131</sup> The place is mentioned at the end of Vespucci's account of his third voyage and the beginning of his account of his fourth, and these texts are printed with Waldseemüller and Ringmann's *Cosmographiae introductio*.

*Cabo de palmes*. Mentioned on f. 39v of the *Luculentissima* in the description of the voyage around Africa; the earliest map on which this toponym appears is an anonymous nautical chart, probably Portuguese, of c. 1471–1482 which is Modena, Biblioteca Estense Universitaria, G. C. A. 5c, where it is *c. de palmas*.<sup>132</sup>

### Western Africa—Central Part

*Sanus fl.* The name is damaged on the Weimar globe; it is mentioned on f. 37r of the *Luculentissima*; Waldseemüller depicts the river but does not give this branch a name; from Ptolemy 4.2, where it is the *Savus*.<sup>133</sup>

*Numidia nova*. Does not appear in Waldseemüller's 1507 map; from Ptolemy 4.3.

*Cinnaba m.* Briefly mentioned in the *Luculentissima* f. 38v; from Ptolemy 4.2. The mountain range has two branches that jut northward, and the left branch is shaped differently on the two globes. This is the result of the restoration of a small area on the Weimar globe that also damaged the toponyms *Sanus fl.* and *Maurita caesarica*.

*Melano getuli*. From Ptolemy 4.6.

*Niger fl.* The Niger River. From Ptolemy 4.6.

*Libya interior*. From Ptolemy 4.6.

*Odrangi ethiopes*. From Ptolemy 4.6.

*Asties pontes*. Schöner also gives this confused spelling of the toponym in his *Luculentissima* f. 39v in his account of the sailing voyage from Lisbon to India. It should be *As tres pontas*, "The three points," referring to the modern Cape Three Points in Ghana. The Cantino map has *C. das tres potas*, the Caverio map *C. de tres pontas*, and Waldseemüller *Caput de tribus pontibus*. The source of the name is unknown; it first appears on the anonymous nautical chart of c. 1471–1482 mentioned previously in connection with *Cabo de Palmes* (Modena, Biblioteca Estense Universitaria, G. C. A. 5c).<sup>134</sup>

*Castello de mina*. In Portuguese this castle is São Jorge da Mina, and in English it is Elmina Castle; it was a trading center of great importance.<sup>135</sup> The *mina* was discovered by João de Santarém and Pero de Escobar in 1471; the *castello* was built a few miles to the east, beginning in 1482. The castle is briefly mentioned in

Schöner's *Luculentissima* f. 39v in the description of the voyage around Africa; there are prominent representations of the castle on the Juan de la Cosa map, the Cantino map (with a descriptive legend),<sup>136</sup> and the Caverio map. Inácio Guerreiro in his commentary accompanying the facsimile of Jorge de Aguiar's nautical chart of 1492 says that this map is the first to depict the castle.<sup>137</sup>

### Central North Africa

*Aphrica minor*. From Ptolemy.

*ciniffus fl.* Waldseemüller has *cinifus*; from Ptolemy 4.3 who gives *Cinyphus*.

*bagradas fl.* From Ptolemy 4.3.

*Libya deserta*. Waldseemüller has *deserta libie*; from Ptolemy 4.3.

*Vsurgula*. In the *Luculentissima* f. 38v Schöner lists among the mountains of *Libya interior*, *Vrsagla* or *Vsurgula*; Waldseemüller gives *ursagla mons*; and Ptolemy 4.6 *Usargala*.

*Libye palus*. There is a dark mark in the middle of this lake on the Frankfurt globe that must be some sort of damage because the mark appears neither on the Weimar globe nor on the Library of Congress gores (see Fig. 3). The lake is from Ptolemy 4.6.

*Garamantes*. From Ptolemy 4.6; see Hallberg, *L'Extrême Orient*, p. 214, s.v. "Garamanta."

*Thala m.* From Ptolemy 4.6.

*solitudo magna*. [Large solitude or wilderness.] In his *Luculentissima* f. 38r Schöner writes *In hac [Libya interior] sunt variae nationes & solitudines inaccessibiles: propter bestias feroces. Serpentes: dracones: que procreant Basiliscos* [In Inner Libya there are several races and inaccessible wildernesses because of the ferocious beasts: serpents and dragons which give birth to basilisks].<sup>138</sup> Waldseemüller writes: *Hic sunt magne solitudines et deserte in quibus sunt Leones pardi tigrides elephantes et multorum aliorum animalium* [Here there are great wildernesses and wastelands in which there are lions, leopards, tigers, elephants, and many other animals]. Schöner's text comes from Isidore, *Etymologiae* 14.5.4, but Waldseemüller's legend comes from a different source that I have not been able to identify. We therefore have here an interesting case of Schöner and Waldseemüller supplying text on a similar subject but from different sources. I have not seen a similar legend in this location on other maps.<sup>139</sup>

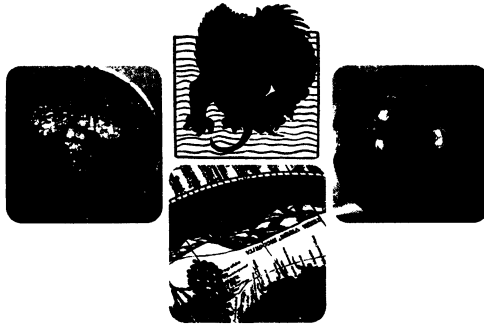
*Rio de lago*. [River of the Lake]. On Schöner's globe the river is very short indeed, whereas Waldseemüller, who calls it *Rio do lago*, shows it flowing from the *lus mons* well to the northwest.

*Nubori*. They also appear on Waldseemüller's 1507 map, and probably correspond to the *Nubae* or *Nubi* of Ptolemy 4.6.

*Cabo Formoso*. "Beautiful Cape." Waldseemüller gives *C. formosum*.

*Rio de Camaroës*. Waldseemüller has *rio camarœl*; the name probably refers to *camarões* (i.e., shrimp).





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# NORTHEASTERN AFRICA

*Velpa m.* Neither this name nor this mountain appears on Waldseemüller's map; the name comes from Ptolemy 4.4.

*Cirene.* Waldseemüller has *Cirenaica*; Schöner in the *Luculentissima* f. 37v says that *Cyrene* is another name for *Cyrenaica regio*, and describes the region, taking particular note of the basilisks that live there. *Cyrenaica* comes from Ptolemy 4.5.

*Alexandr[ia].* Schöner has a good brief description of the city in his *Luculentissima* ff. 41v–42r, mentioning that it was founded by Alexander the Great and that the apostle Mark and Saint Catherine were active in the city, and describing its topography. See Ptolemy 4.5.

*Egypt.* The name is difficult to read among the branches of the Nile.

*Marmarica.* Part of the name is above the mountain, the rest below; from Ptolemy 4.5.

*Silviofera.* Also on Waldseemüller; Ptolemy 4.4 gives *Silphiofera*.

*Chelonides palus.* From Ptolemy 4.6.

*Libij aegypti.* Waldseemüller has *libi egyptii*; Ptolemy 4.5 has *Libyaegypti*.

*Tebe.* Waldseemüller gives *Thebais*; from Ptolemy 4.5.

*Ethiopie montes.* The Mountains of Ethiopia. From Ptolemy 4.7.

*Nilo fl.* Schöner describes the Nile's course in his *Luculentissima* f. 36v, saying that its source is at the famous Mountain of the Moon, that it divides Africa from

Ethiopia, and that there are several islands in its course, including Meroe; it then forms a large lake, from which it flows in several branches, watering all of Egypt with its annual flood, and finally enters the Mediterranean through seven mouths.<sup>140</sup> See also Ptolemy 4.5 and 4.7.

*Meroe insula*. From Ptolemy 4.7.

*Babilleni*. These people do not appear on Waldseemüller's map; from Ptolemy 4.7 who has *Babylleni*.

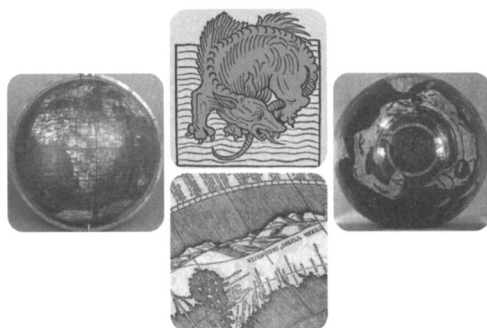
*Risophag[i]*. These people are "rice-eaters"; from Ptolemy 4.7.

*Adulite*. From Ptolemy 4.7.

*Analite*. The same on Waldseemüller's map; *Aualite* in Ptolemy 4.7.

*elephas m*. From Ptolemy 4.7.

*Blemnes*. Schöner includes an illustration of a man with his face in his chest (see Figs. 1 and 3), one of the few humanoid figures on his globe, and in his *Luculentissima* f. 38v writes that the Blemmyae (or Blemmyes) have no heads, but have their face and eyes in their chest.<sup>141</sup> Waldseemüller gives *Blenes* but without any illustration. Ptolemy 4.7 places the Blemmyae in exactly this part of Africa; they are illustrated in southern Africa in the Hereford *mappamundi* (c. 1290–1310) and the Psalter *mappamundi* (fourteenth century).<sup>142</sup>



# CENTRAL AND SOUTHERN AFRICA

*Ethiopia sub Egypto in que Balthazar magus dominabatur.* [Ethiopia south of Egypt where Balthazar, one of the Three Wise Men, ruled.] The region *Ethiopia sub Egypto* is from Ptolemy 4.7 and appears on Waldseemüller's map, and Schöner in the *Luculentissima* f. 38v describes the many beasts and monsters there, including the rhinoceros, giraffe, basilisk, and serpents from whose heads gems are taken<sup>143</sup>; however, Waldseemüller says nothing about Balthazar or any of the Three Wise Men, so Schöner was using other sources here. Schöner expands somewhat upon the legend on his globe in his *Luculentissima* f. 38v: *Ibi dominum obtinebat quondam Balthazar magus domino nostro Iesu munera offerens* [There Balthazar, one of the Three Wise Men, obtained power; he brought gifts to Our Lord Jesus]. The Three Wise Men<sup>144</sup> appear on earlier maps (e.g., Angelino Dulcert's map of 1339, the Catalan Atlas of 1375; Gabriel Valseca's chart of 1439, and Juan de la Cosa's map of 1500).<sup>145</sup> On these maps, however, the Wise Men are represented together on their way to Bethlehem, and there is no mention of their individual places of origin. On Behaim's globe as well they are represented together, but Behaim also indicates their places of origin; he indicates a different location than Schöner for the kingdom of the African Wise Man (to whom he gives no name), further to the east, near the opening of the Red Sea.<sup>146</sup>

*Aranges m.* The mountain is further north on Waldseemüller's map; Ptolemy 4.6 gives *Arancas* or *Arangas*.

*Rio de gaban.* The Gabon River. On Schöner's globe this river flows west to the coast from the *Aranges m.*; on Waldseemüller the rivers that flow from the *Aranges mons* to the coast have different names (*Rio .S. maria de nazaret* and *Rio de .s. Mathia*). The Cantino map has *Rio do gauam* here, and Caverio *Rio de gaban*; see Stevenson, *Marine World Chart*, p. 100.

*Cabo primeuo.* Waldseemüller gives *C. primum*.

*Nubia.*

*Calceiethiop[es].* The name is faded on the Weimar globe; Waldseemüller gives *Calcei Ethiopes*, and Ptolemy 4.6 *Achalicces Aethiopes*.

*Habesch.* Habesch = Habasia = Abyssinia. Schöner in his *Luculentissima* f. 39r says that the king and people of Habesch are Christian, and under the control of Prester John of India (and Schöner has a legend about Prester John in Asia, see p. 76).<sup>147</sup> Habesch does not appear on Waldseemüller's 1507 map, and on that map the mythical eastern Christian king named Prester John is in Asia; on Waldseemüller's *Carta marina* of 1516, Habesch is located well to the northeast of its location on Schöner's globe, and is where Waldseemüller then located the kingdom of Prester John.<sup>148</sup> These maps and Schöner's globe thus vividly demonstrate the continuing shift of the purported location of the mythical kingdom of Prester John from Asia to Africa (though Schöner on his 1520 globe retains Prester John in Asia).<sup>149</sup>

*Smirnofera.* In his *Luculentissima* ff. 38v and 39r Schöner gives *Smyrnofera regio*; Waldseemüller gives *Smirnofora regio*; the name means "myrrh producing" and comes from Ptolemy 4.7.

*Azama.* Ptolemy 4.7 gives *Azania*.

[image of a small black man holding a stick]. Although Schöner does not say a word about pygmies in this area (which area he discusses in his *Luculentissima* ff. 38v–39r), it is tempting to think that this small black man (much smaller than the nearby *Blemya*) is intended to represent a pygmy (see Fig. 1), as Aristotle *Historia animalium* 8.12 and Pliny 6.35.188 say that the Pygmies live among the lakes where the Nile has its origin, and these lakes are not far to the south on the globe<sup>150</sup>; however, the matter is not clear. Schöner mentions pygmies in Asia in his *Luculentissima* f. 52r.

*Melinde.* Waldseemüller gives *Mellinde* and locates it further to the south; the Cantino map has the legend *Melinde aquij he el Rey de Melinde muito nobre z amigo del Rey de portugall*—"Malindi: Here is the King of Malinde, very noble and a friend of the King of Portugal."<sup>151</sup>

*Monbaza.* Mombasa. Waldseemüller gives *monbatha*.

*Mascha.* Waldseemüller gives *masca m.*; Ptolemy 4.7 gives *Masta* or *Maste*.

*Ethiopia interior.* From Ptolemy 4.8.

*Paludes Nili*. The marshes or lakes believed to be the source of the Nile. Schöner has very brief remarks on the *Paludes Nili* and the Mountains of the Moon in his *Luculentissima* f. 39v. The *Paludes* are mentioned by Ptolemy 4.8.<sup>152</sup> From this point south in Africa the toponyms on the Weimar globe are very faint, whereas many of the rivers are drawn with dark, clear lines—a sure sign that the courses of these rivers have been redrawn.

*Magni congo*. The first part of *congo* is damaged on the Frankfurt globe; the name does not appear on Waldseemüller, though he does have a substantial river, the *Rio podexo*, in this area, so Schöner was using other sources here. Cantino has *Rio de manicongo* with a long legend about relations between the local king and the King of Portugal<sup>153</sup>; and Caverio gives *rio de manicogo*.<sup>154</sup>

*Agisimba*. The name is essentially illegible on the Weimar globe; Waldseemüller gives *Agizimba Regio Ethiopum*; from Ptolemy 4.8.

*Rio San Lorenzo*. The name is invisible on the Weimar globe, and is not on Waldseemüller's map; Henricus Martellus in his map of c. 1489 now in the British Library now in the British Library has a *C. S. Lorenzo* in this same area; the Cantino map has *Rio de sam lazare*, but Caverio does not have it.<sup>155</sup>

*Repsy ethiopes*. The first "p" is damaged on the Weimar globe; Waldseemüller has *Repsii Ethiopes*; Ptolemy 4.8 gives *Rhaspi ethiopes*.

*Lune montes*. The famous Mountains of the Moon whose snowmelt was thought to give rise to the Nile. Schöner mentions the mountains very briefly on f. 39v of his *Luculentissima*, and also on f. 36v in a passage discussed earlier in my commentary on *Nilo fl.* From Ptolemy 4.8.<sup>156</sup>

*Quiola*. This is Kilwa. Waldseemüller gives *Quiola* (an incorrect spelling); the Cantino map has a legend about the king of this city and his domain.<sup>157</sup>

*Monsanbiqui*. Mozambique. The name is quite faded on the Weimar globe. Schöner mentions it (spelling it *Monzanbiqui*) on f. 39v of his *Luculentissima* in his description of the voyage from Lisbon to India.

*Rio das boas*. The river is listed thus in the *Luculentissima* f. 39v; Waldseemüller has a river in much the same position, which, like Schöner's, flows south from the Mountains of the Moon, but Waldseemüller names the river *Rio .s. vincencij*. Schöner has abbreviated the name of the river: compare the *Rio de bom Signale* on the "King-Hamy" map of c. 1502,<sup>158</sup> *Rio das bons sinaes* on the Cantino map, and *Rio de bono futaes* on the Caverio map.

*Zafala*. This name does not appear on Waldseemüller's map, but he does have a legend<sup>159</sup> similar to those on the Cantino and Caverio maps that mention an abundance of gold here, and the Cantino map but not the Caverio map, includes the name of the place (*Çaffala* on Cantino).<sup>160</sup>

*Gazat*. This is the land of the Gafat people, located approximately between the headwaters of the Awash River and the Blue Nile. The toponym is briefly mentioned in the *Luculentissima* f. 39r; Waldseemüller gives *Gasat*, and Behaim

*Gafat*<sup>161</sup>; this name comes from *Gaffat* on the *Egyptus Novelo* map of Egypt and Abyssinia of c. 1454, which was added to some fifteenth-century manuscripts of Ptolemy's *Geography*,<sup>162</sup> specifically Vatican City, BAV MS Vat. Lat. 5699 (dated 1469), f. 125, where it is titled *Aegyptus cum Ethiopia moderna*; Vatican City, BAV MS Urb. Lat. 277 (dated 1472), ff. 128v–129r, where it is titled *Descriptio Egypti Nova*; and Paris, BnF, MS Lat. 4802, ff. 130v–131r (c. 1475–80), where it is titled *Egyptus Novelo*.<sup>163</sup>

*Sacas lacus*. Waldseemüller has *sacaff lacus*; the long river flowing north from this lake on Schöner's globe is copied from Waldseemüller.<sup>164</sup>

*Angra das Aldas*. Schöner mentions this toponym in the *Luculentissima* f. 39r, in his description of the sailing voyage around Africa. The name does not appear on Waldseemüller's 1507 map, but the Cantino map has *G. das Aldeas* and the Cantino map *Corffo daalgas*—see Stevenson, *Marine World Chart*, p. 103. This bay was named by Diogo Cão on his voyage of 1485.<sup>165</sup>

*Lagus fl.* This river is not mentioned in the *Luculentissima* f. 39v; on Waldseemüller's 1507 map the same river flows from the southern side of the Mountains of the Moon and is named *Rio de lago* at the coast. The Cantino map has *Rio da Lagoa*, but the name does not appear on the Caverio map: see Stevenson, *Marine World Chart*, p. 107, and Ravenstein, "The Voyages of Diogo Cão," p. 655, who identifies it with the Kasuga River.

*Cabo des Cotemes*. In the *Luculentissima* f. 39v Schöner gives *Cabo de Corremes*; Waldseemüller gives *Cabo de coreateso*; the Cantino map *Cabo das correntes*, and the Caverio map *cabo de coreatesao*.<sup>166</sup> It is only the Cantino map that gives the correct form, meaning "Cape of Currents"; the other spellings are the result of errors of transcription. The strong southern currents in this area were mentioned by Marco Polo, Book 3, Chap. 33 on Madagascar; the passage is in Vol. 2, p. 412 of Yule's translation, with a note on the current on p. 415.<sup>167</sup>

*A baia de lagoa*. In the *Luculentissima* f. 39v Schöner gives *Abaia de la Goa*; the Cantino map has *Abaia das alagoas*, and the Caverio map *plaia das alagoas*.<sup>168</sup> This is Maputo Bay, formerly called Delagoa Bay, on the coast of Mozambique.

[image of an elephant]. Schöner's elephant (see Fig. 1) shows no signs of influence from the elephant depicted in the *Hortus sanitatis*, "De animalibus," Chap. 55. The Caverio map has an elephant in southern Africa, as does Waldseemüller on his 1507 map, though a bit further north than Schöner's, and to its southeast there is the legend: *Hic reperiunter elephantes maximi omnes albi* [Here are found very large elephants, all of them white]. Ptolemy 4.8 mentions white elephants in *Aethiopia Interior*; Waldseemüller cites this passage almost verbatim from Ptolemy (*Regio magna ethiopum qua elephantes albi omnes sunt et rinocerontes et tigrides*) in a legend well to the northwest of his elephant. The southern legend about white elephants seems to be a gratuitous repetition:

in Waldseemüller's *Carta marina* of 1516 the image of the elephant and the northern legend remain, but the southern legend is absent.

*Cabo bona speranza*. The Cape of Good Hope. Schöner mentions the Cape in the *Luculentissima* f. 39v in his account of the sailing voyage around Africa; the Cape was famously rounded by Bartholomeu Dias in 1488.<sup>169</sup>



# NORTHERN ASIA

In this section I will discuss the toponyms and legends from the northernmost points of Asia south to about 35° North, to the Emody Mountains in Central Asia, for example (see Fig. 12). I will list the toponyms and legends from north to south, and then move east and north and start again. Most of northern Asia is in good condition on the Weimar globe, but there is a section in Central Asia from the *Asmiroi m.* southward in which the toponyms are very faded, although the mountains and rivers have clearly been redrawn. It is interesting to observe in this section how when we move to the East, Ptolemy is replaced by Marco Polo as the important source of toponyms and legends.

## Northwestern Asia, Approximately 80° East, South to Turkey

*Hyperborei Scythe.* The Hyperborean Scythians. The mountain chain stretching east and west just to the south is not named here, but on Waldseemüller it is *hyperborei montes*, and Schöner does mention the *Hyperboreus mons* in the *Luculentissima* f. 46r; see Hallberg, *L'Extrême Orient*, p. 252.

*Mostania.* The "M" is missing on the Weimar globe; I do not find this name in the *Luculentissima*; Waldseemüller places the *Modote gentes* and *hippofagi sar-*



*mate* here, whom Schöner mentions in his *Luculentissima* f. 45v; see Ptolemy 5.8.

*Tanais*. The River Don. As Schöner notes in his *Luculentissima* f. 46r, this river was traditionally held to separate Europe from Asia: see Strabo 11.1, Orosius 1.2.4–5 and Isidore 13.21.24.<sup>170</sup>

*Sarmatia Asiatica*. The name is damaged on the Weimar globe; there is an account of the region in the *Luculentissima* f. 45v, emphasizing the lack of natural resources; see Ptolemy 5.8, Pliny 6.17, and A. Pauly, G. Wissowa, and W. Kroll, eds., *Paulys Real-Encyclopädie der classischen Altertumswissenschaft* (Stuttgart: J. B. Metzler, 1894–1980), Series 2, Vol. 2, Cols. 1–12, s.v. “Sarmatia.”

*Paludes Meotides*. The Sea of Azov; see Hallberg, *L'Extrême Orient*, pp. 325–326. The Green Globe has a large island in the middle of the sea; there is no island on Schöner's 1515 globe, and a small island in the northern part of the sea on Waldseemüller's map (labeled *alopetia*) and on Schöner's 1520 globe.

*Euxinum Mare*. The Black Sea.<sup>171</sup>

*Galatia*. There is a brief description in the *Luculentissima* ff. 44v–45r; see *Paulys Real-Encyclopädie der classischen Altertumswissenschaft* Vol. 7, cols. 519–559, s.v. “Galatia.”

*Capadocia*. The “pa” is damaged on the Weimar / Dreden globe; briefly described in the *Luculentissima* f. 45r, and see Ptolemy 5.6.

*Turchia*. Turkey

*Paphlagonia*.

*phrygia*. Phrygia; the boundaries of the country varied in ancient times.

*Armenia minor*. Ptolemy 5.12.

*Caria*.

*Pamphilia*. See the *Luculentissima* f. 45r, and Ptolemy 5.5.

*Cil..a*. This is *Cilicia*; the name is difficult to read on the Weimar globe; see the brief description in the *Luculentissima* f. 45v, Ptolemy 5.7, and *Paulys Real-Encyclopädie der classischen Altertumswissenschaft*, Vol. 11, Cols. 385–389, s.v. “Kilikia.”

## Central Asia West of the Caspian

*Tartaria*. See the *Luculentissima* f. 45v.

*Caucasus*. Referring to the mountain chain. On the Frankfurt globe there is a break in the line of longitude so that it does not cover part of this toponym, but on the Weimar globe the lines of latitude and longitude have clearly been redrawn in this area, and the heavy line of longitude runs right across the toponym. Compare the following remarks on *Armenia maior*.

*Colchis*. In modern Georgia. Schöner describes the region briefly in his *Luculen-*

*tissima* f. 46r, focusing on the voyage of Jason and the Argonauts here to take the Golden Fleece. See also Ptolemy 5.9.

*Iberia*. In modern Georgia; see the *Luculentissima* f. 46r and Ptolemy 5.10.

*Albania*. This is the Caucasian Albania, in modern Azerbaijan. Schöner describes the region in his *Luculentissima* f. 46r, mentioning that it gets its name from the white color of its people, who with their light colored eyes see better at night than during the day, and the famously ferocious local dogs.<sup>172</sup> See also Ptolemy 5.11.

*Moschii*. Listed in Schöner's *Luculentissima* f. 46v. This name does not appear on Waldseemüller's map, though the mountains themselves do. The name is from Ptolemy 5.12.

### Northern Asia, Approximately 95° East, and South to the Caspian Area

*Ursi alb[i]*. [White bears.] Very briefly mentioned in Schöner's *Luculentissima* f. 50v; the source of these polar bears is Marco Polo<sup>173</sup>; they are also mentioned by Albertus Magnus, *De animalibus* 19.1.8,<sup>174</sup> and in the legends on some nautical charts.<sup>175</sup>

*Viri silvestres*. [Men living in the woods, or wild men.] Very briefly mentioned in Schöner's *Luculentissima* f. 50v. Andrea Bianco for example in the *mappamundi* in his atlas of 1436 places *omines silvestros* in the far north,<sup>176</sup> and Waldseemüller in much the same position as Schöner has the legend *hic uiri siluestres reperiuntur*.

*Rha fl.* The Volga River. From Ptolemy 6.14.

*Rimmi m.* Listed as *Rimnicus mons* in the *Luculentissima* f. 50v; Ptolemy 6.14 gives *Rhymnici*.

*Rimnicus fl.* The name is faded on the Weimar globe.

*daix fl.* Very faded on the Weimar globe; briefly described in the *Luculentissima* f. 50v; from Ptolemy 6.14. This river is probably the Ural, which flows from the Ural Mountains into the Caspian.

*Iasartus fl.* Faded on the Weimar globe; briefly described in the *Luculentissima* f. 50v; Ptolemy 6.12–14 gives *Iaxartis*.

*Hyrceanum sive Caspium mare*. The Caspian Sea<sup>177</sup>; there is an important difference between the two globes here (see Figs. 13 and 14): on the Weimar globe the Caspian has an extra lobe in the East that covers with water both the toponym *Oxy m* as well as these mountains themselves. On the Frankfurt globe both the toponym and the mountains are on dry land. The outlines of the Caspian Sea have clearly been redrawn on the Weimar globe, and evidently they were faded enough before their restoration that the restorer mistook the line marking the eastern edge of the mountains for the eastern edge of the Caspian.

*Talca*. One of the islands in the Caspian; see the *Luculentissima* f. 48v; Wald-

seemüller gives *Talea*, and Ptolemy 6.9 *Talca*, so Schöner was not following Waldseemüller closely here.

*Media*. Brief description in the *Luculentissima* f. 48r; see Ptolemy 6.2.

*Euleus fl.* Briefly mentioned in the *Luculentissima* f. 48r; Schöner shows the river reaching the Caspian, but Waldseemüller does not. From Ptolemy 6.3.

*Hyrkania*. In his *Luculentissima* f. 48v Schöner describes the region, saying that it is heavily forested and has wild beasts and also a bird called the Hyrcana; he also quotes Strabo on the land's great productivity, particularly of grape vines, figs, and wheat, and on the abundance of honey.<sup>178</sup> On Hyrcania see Ptolemy 6.9; Hallberg, *L'Extrême Orient*, pp. 253–254; and *Paulys Real-Encyclopädie der classischen Altertumswissenschaft*, Vol. 9, Cols. 454–526, s.v. "Hyrkania."

*Margiana*. See Ptolemy 6.10 and *Paulys Real-Encyclopädie der classischen Altertumswissenschaft*, Vol. 14, Cols. 1703–1704.

### Northern Asia, Approximately 105° East, South to About 30° North

*Pistrix ibi*. The word *pistrix* is a variant of the Latin *pristis* which means a large fish or sea mammal; the *Luculentissima* f. 50v has: *Ibi Pistrix reperitur animal mire magnitudinis habitans in cauernis: spinas jaciens in venatores & canes eos persequentes* [There the pistrix is found, a very large animal that lives in caves and throws its spines at hunters and dogs who pursue it]. Waldseemüller's legend is very close to the text in the *Luculentissima*.<sup>179</sup> This description actually applies to the *histris* or *hystrix* (i.e., the porcupine), which is described by Pliny, *Naturalis historia* 8.125, Solinus 30.28, Isidore, *Etymologiae* 12.2.35, Thomas of Cantimpré, *Liber de natura rerum*, 4.52, Third Family bestiaries, and the *Hortus sanitatis*, "De animalibus," Chap. 73, which quotes from Thomas. Thomas of Cantimpré and the *Hortus sanitatis* are the only possible sources of the legend on Waldseemüller's map and Schöner's *Luculentissima*, as only they mention that porcupines live in caves and near water—and the legends on both Waldseemüller's map and Schöner's globe are on the coast.<sup>180</sup> Pliny locates the porcupine in Africa and India, and all of the other sources cited place it in Africa, so the location of the legend in northern Asia must come from another source. This source is perhaps Marco Polo, Book 1, Chap. 28, "Of Taican," where Polo describes porcupine hunting in Central Asia: A misinterpretation of this text, or the idea that porcupines live near water, might have lead to the displacement northward.<sup>181</sup>

*Tartaria*. See the *Luculentissima* f. 50v.

*Messei*. See the *Luculentissima* f. 50v.

*Scythia intra imaum*. [Scythia within the Imaum.] The phrase "within the Imaum" means west of the *Imaus mons* to the east; from Ptolemy 6.14.

*Aspessy*. Ptolemy 6.14 gives *Aspasii*.

*Sodgy mons*. Mentioned in the *Luculentissima* f. 50r.

*Oxia lacus*. The name is damaged on the Weimar globe; Waldseemüller calls it *oxie fons*; see Ptolemy 6.12.

*Oxy m*. Waldseemüller does not name these mountains; from Ptolemy 6.12.

*Sogdiana*. See the *Luculentissima* f. 50v, where Schöner describes the huge papyrus trees of the region<sup>182</sup>; Hallberg, *L'Extrême Orient*, p. 481, s.v. "Sogdiani," Pliny 6.49; Ptolemy 6.11–14<sup>183</sup>; and also *Paulys Real-Encyclopädie der classischen Altertumswissenschaft*, Series 2, Vol. 3, Cols. 788–791.

*Oxia fl*. See the *Luculentissima* f. 50r; Ptolemy 6.9–12 and 14 gives *Oxus*; see Hallberg, *L'Extrême Orient*, pp. 387–388 s.v. "Oxus."

*Bactriana*. See the *Luculentissima* f. 50r; Hallberg, *L'Extrême Orient*, pp. 57–58, s.v. "Bactria"; and *Paulys Real-Encyclopädie der classischen Altertumswissenschaft*, Vol. 2, Cols. 2805–2806, s.v. "Baktriane"; from Pliny 6.48 and Ptolemy 6.11.

*Ochus fl*. See the *Luculentissima* f. 50r and for example Pliny 6.49, Isidore 14.3.30, and Ptolemy 6.11.

### Northern Asia, Approximately 120° East, and South to About 35° North

*Non habent regem pulchri sunt carent vino & blado idolatre sunt*. [They have no king and are handsome; they have neither wine nor corn, and are idolaters.] This text does not appear in the *Luculentissima*, but Waldseemüller has a very similar legend: *Incole harum carent rege proprio bestialit[er] vivunt sunt magni fortes et pulcri homines carent vino et blada sed divites carniū* [The inhabitants of these (regions) lack their own king, live like beasts and are very strong and handsome men; they have neither wine nor corn but are rich in meat], and evidently this was Schöner's source. This legend is a combination of texts from two chapters of Marco Polo, both of which relate to people living in northern Asia. Much of the legend comes from Marco Polo 4.21 on the "Land of Darkness," where Polo tells us that the people have no king, live like beasts, that they are hunters and have many furs which they sell, and that they are tall and shapely. The bit about the people lacking corn and wine comes from Marco Polo 1.56 on "The Plain Beyond Caracoron."<sup>184</sup> This same arctic peninsula appears without legend on two of Henricus Martellus' world maps of c. 1489, namely Yale University, Beinecke Rare Book and Manuscript Library, Art Store 1980.157, and the world map in the manuscript of his *Insularium Illustratum* which is London, British Library Add. MS 15760, ff. 68v–69r.<sup>185</sup>

*Alanorsi*. The "i" touches the line of longitude and is difficult to distinguish; the *Luculentissima* f. 50v gives *Alanorsi*, as does Ptolemy 6.14.

*Sieb fl.* Schöner would seem to have copied this river from Waldseemüller, who gives it the same name; it flows from the *Syebi* mountains (see the next entry), and certainly derives its name from those mountains (see Fig. 13). An unnamed river flows much the same course in Henricus Martellus's world map of c. 1489 in his *Insularium* in the British Library (just cited). There is no mention, however, of this river in Ptolemy or in the *Luculentissima*, and it is tempting to think that the northern course of this river was invented out of a *horror vacui* to help fill northern Asia on these maps—see later on the *Oechoordus fl.*, which Ptolemy has flowing south, but Waldseemüller and Schöner show flowing north. It is curious that Schöner does not mention the river in his *Luculentissima*, as the river is long enough to have merited comment.

*Syebi m.* The *Luculentissima* f. 50v gives *Siebi*; Ptolemy 6.14 gives *Syebi*.

*Abijscithe.* The *Luculentissima* f. 50v gives *Abii Scythae*, and Waldseemüller *Abiscijthe*; these are the *Abii Scythae* of Ptolemy 6.15, who live in northern *Scythia extra Imaum*.

*Tectosaces.* From Ptolemy 6.14.

*Imaus mons.* See the *Luculentissima* f. 50v; Hallberg, *L'Extrême Orient*, pp. 259–260, s.v. “Imaus, Mons”; Pliny 5.98; and Ptolemy 6.14–16.

*Amarei montes.* Schöner mentions these mountains briefly in his *Luculentissima* f. 50v; the name does not appear on Waldseemüller's map; Ptolemy 6.14 gives *Anarei*.

*tapuri montes.* The first two letters are difficult to read on both globes and the Library of Congress goes; Schöner gives *Tapuri* in his *Luculentissima* f. 50v, as does Ptolemy 6.14.

*Astatancas mons.* Listed in the *Luculentissima* f. 50r; Waldseemüller gives *Astatantas mons*, and Ptolemy 6.14 *Ascotancae*.

ASIA.

*Turis lapidea mons.* [Mountain of the Stone Tower.] Mentioned in the *Luculentissima* f. 50r, and illustrated with an image of a tower on Waldseemüller and also for example on the world map of Andreas Walsperger of 1448,<sup>186</sup> on Henricus Martellus' world map of c. 1489 in the British Library,<sup>187</sup> and Giovanni Contarini's world map of 1506. From Ptolemy 1.12 and 6.13; in Greek it is the *Pyrgos Lithinos*.

*Sacharum regio.* Ptolemy 6.13 gives *Sacarum regio*. Schöner describes the people in his *Luculentissima* f. 50r: they have no cities or houses, but live in the woods and in caves; they are excellent archers and nomads well skilled in grazing cattle and milking mares; they drink the milk and live in caves.<sup>188</sup>

## Northern Asia, Approximately 165° East, and South to About 35° North

*Arcticus circulus.*

*desertum magnum Scythe*. In his *Luculentissima* f. 50v Schöner writes: *Haec etiam Scythia habet magna deserta Septentrionem versus. quod Ptholomeo incognita permansere: vbi animalia diuersa reperiuntur. Tigrides: Leopardi: Lince: Leones: Vrsi etiam albi ferocissimi* [This Scythia also has a large wilderness in the north, which was unknown to Ptolemy, and where various animals are found: tigers, leopards, lynxes, lions, and ferocious polar bears]. Waldseemüller has two very similar legends in the same area.<sup>189</sup> The source of the first part of Schöner's text and the first of Waldseemüller's legends is Marco Polo 4.20, "Concerning King Conchi"<sup>190</sup>; I have not been able to determine the source of the list of animals.

*Tabi m.* Waldseemüller gives *tabi mons*, but this mountain does not appear in the *Luculentissima* or in Ptolemy.

*Antropophagi*. Briefly mentioned in the *Luculentissima* ff. 50v and 51r; see Hallberg, *L'Extrême Orient*, pp. 30–32; from Ptolemy 6.16.

*nuba lacus*. Waldseemüller gives *nubius lacus*; the name certainly comes from the *Anuby m* from which three rivers flow into the lake. The lake does not come from Ptolemy and Schöner does not mention it in the *Luculentissima*; this latter omission is curious, because the lake is quite prominent and a total of five rivers flow into it, including the *sieb fl* discussed earlier (see Fig. 13). A very similar lake appears in Henricus Martellus' world map of c. 1489 in his *Insularium Illustratum*, London, British Library Add. MS 15760, ff. 68v–69r, and in his world map of the same period, which is Yale University, Beinecke Rare Book and Manuscript Library, Art Store 1980.157, there is a similar lake located somewhat to the southeast of the lake's location on Waldseemüller's map and on Martellus's map in the British Library.<sup>191</sup> A very similar lake also appears on the Green Globe (Paris, BnF, Rés. Ge A 335), but with fewer toponyms surrounding it. On the Zeitz mappamundi of c. 1470, which is Zeitz, Bibliothek des Kollegiatstiftes, MS Lat. Histor. 497, f. 49r, there is a somewhat similar group of converging rivers north of the Caspian Sea, in the area enclosed by the Caspian Sea, the *Caspia montes*, *Riphei montes*, and *Hyperborei montes*.<sup>192</sup> But there is no correspondence between the names of the rivers that converge on the Zeitz map (*ydrus fluuius*, *bactrus fluuius*, *echon fluuius*, *achar fluuius*), and those on Waldseemüller's map, so it is difficult to know what to make of this similarity.

*Anuby m.* Schöner mentions the *Anubii* in his *Luculentissima* f. 51r; Waldseemüller calls the mountains *Anubij montes*; Ptolemy 6.16 gives *Annibi*; see Hallberg, *L'Extrême Orient*, p. 30 s.v. "Annibi."

*Arannorum m.* I do not find these mountains in the *Luculentissima*; Waldseemüller calls them the *aranorum montes*, whereas Ptolemy 6.15–16 places the *Auzaciorum montes* in this area. Note that in Ptolemaic maps the river *Orchades* that

flows from these mountains goes to the south, whereas in Waldseemüller's map and Schöner's globe its course is to the north (see Fig. 13). It is tempting to think that the northern course of this river was added out of a *horror vacui* to fill northern Asia, which was still largely unknown.

*Serica regio*. Schöner describes the region in his *Luculentissima* ff. 50v–51r, saying that the Seres gather wool from trees from which they make silk; they are peaceful and avoid dealings with other people, and die of sickness in their old age.<sup>193</sup> The name is found in Ptolemy 6.16.<sup>194</sup>

*Asmiroi m.* The name is very faded on the Weimar globe, as are all of the toponyms from this point south in Asia on the same globe. The outlines of the mountains, on the other hand, are dark and clear, and have certainly have been redrawn. The toponyms evidently were too faded to be legible, and were thus impossible to rewrite. The legends and placenames just to the east on the Weimar globe are dark and clear, and they seem to be unretouched. Waldseemüller gives *Asmirei*; see Hallberg, *L'Extrême Orient*, p. 50 s.v. "Asmiraea"; from Ptolemy 6.16.

*Troani*. All but invisible on the Weimar globe. Listed with no description in the *Luculentissima* f. 51r; see Ptolemy 6.16.

*Scythia extra Imaum montem*. See the *Luculentissima* ff. 50r–50v; the name comes from Ptolemy 6.15.

*Taguri*. Very faded on the Weimar globe; see the *Luculentissima* f. 51r and Ptolemy 6.16.

*Tagorus m.* Almost illegible on the Weimar globe; in the *Luculentissima* Schöner mentions the city of *Tagora* on ff. 59r–59v but not the mountain; Waldseemüller gives *Tagarus mons*; see Ptolemy 6.16.

*Chasy m.* See the *Luculentissima* f. 47v; *Casii* in Ptolemy 6.15.

*Melchior magus ibi dominabatur*. [Melchior, one of the Three Wise Men, was in power there.] See Fig. 18 and Schöner's *Luculentissima* f. 50v, where he writes: *Tharsos regio. In hac Melchior magus dominium quondam obtinebat* [Tharsus, where Melchior, one of the Three Wise Men, once held power]. This material is not on Waldseemüller's map. As I mentioned earlier in connection with the legend about Balthasar in Ethiopia, the Three Wise Men appear on Behaim's globe; he does not give them names, but he places the corresponding Wise Man further south, on the coast just north of Taprobane.<sup>195</sup> Waldseemüller's map does not include information about Melchior's kingdom or indeed anything about the Three Wise Men.

*Serici m.* Not mentioned in the *Luculentissima*; very faded on the Weimar globe; see Ptolemy 7.2.

*Emody mon.* Waldseemüller gives *Emodinorum Montes*; there is a brief note about them in Hallberg, *L'Extrême Orient*, p. 197; from Ptolemy 6.14–15.

### Northern Asia, Approximately 195° East, and South to About 30° North

*desertum*. This uninhabited region northwest of *Balor Regio* (see following) is perhaps to be connected with Marco Polo's description (1.32) of that region as being uninhabited.

*Garnei*. Ptolemy 6.16 gives *Garinaei*.

*Oechoordus fl.* Schöner in the *Luculentissima* f. 51r gives *Oecharodus flu.*, and says that it flows to the north into the Northern Ocean.<sup>196</sup> Ptolemy 6.15–16 gives *Oechardes*, and does not specify the river's course clearly; note again (see earlier on *Arannorum m*) that even though the river flows to the south on Ptolemaic maps, on Waldseemüller's map, Johannes Ruysch's 1507 world map, Schöner's 1515 globe, and in Schöner's text it flows to the north. See earlier on the *Sieb fl.*, which Waldseemüller, Schöner, and other cartographers show flowing far to the north in Asia though the river does not have this course in Ptolemy's text or in Ptolemaic maps: It is tempting to think that the northern course of the river was invented to help fill northern Asia on these maps.

*bantisis fl.* The *Luculentissima* f. 51r gives *Banthisis*, and says that the river flows to the Northern Ocean; Ptolemy 6.16 gives *Bautisis*. As with the *Oechoordus / Oechardes*, Waldseemüller and Schöner show this river flowing far to the north, but on Ptolemaic maps of the period it does not flow north of 43°.

*Balor regio*. Schöner in the *Luculentissima* f. 53v says that the residents of this region live in the mountains and are wild; they lack wine and corn; they eat deer meat and also ride on domesticated deer<sup>197</sup>; Waldseemüller's legend here is almost identical to the text in the *Luculentissima*. Much of this material comes from the passage on Bolor at the end of Marco Polo 1.32, "Of the Great River of Badashan," whereas the detail about riding deer<sup>198</sup> comes from Marco Polo 1.56, "On the Plain Beyond Caracoron." For more on *Balor regio* see Hallberg, *L'Extrême Orient*, p. 74, s.v. "Belor," and Yule's discussion of the region.<sup>199</sup>

*Christiani Nestorini*. See the *Luculentissima* f. 53v, Hallberg, *L'Extrême Orient*, pp. 371–375 s.v. "Nestoriani," and also the following discussion of the nearby *Ecclēsie 3 christianorum* (see p. 60).

*Chinchitalis regio*. There is a brief description in the *Luculentissima* f. 53 which is echoed in the next two legends; Marco Polo 1.42 gives *Chingintalas*; see Hallberg, *L'Extrême Orient*, p. 141.

*Reubarbarus in istis montibus colligitur*. [Rhubarb is collected in these mountains.] The reference is to Noble rhubarb or Sikkim rhubarb (*Rheum nobile*). Schöner in his *Luculentissima* f. 53v writes *Chinchitalis prouintia: In hac colligitur Reubarbarum in magna quantitate* [The province of Chinchitalis: here great quantities of rhubarb are collected]; on f. 59v he repeats this in the listing for the city *Sucias*, which does not appear on his globe but does appear on Waldseemüller's



map near his similar legend about the collection of rhubarb in the mountains here. Marco Polo does not mention rhubarb in his chapter on Chingintalas, but in his Book 2, Chap. 75, mentions that rhubarb is collected in the mountains near Suju.<sup>200</sup>

*Ibi pagani et idolatre multi sub Tangut provi[ncia]*. [There are pagans and many idolaters beneath the province of Tangut.] In the *Luculentissima* f. 53v the related text appears in the description of *Chinchitalis prouintia*: *In ea multi Pagani: etiam idolatrae*. Waldseemüller has a similar legend. From Marco Polo 1.42 on Chingintalas; see Hallberg, *L'Extrême Orient*, pp. 507–508 s.v. “Tangut.”

*Tholoma pro[vincia]*. In his *Luculentissima* f. 53v Schöner says that the inhabitants have their own language, and Waldseemüller has a legend to the same effect; see Marco Polo 2.58 who calls the province Coloman; and Hallberg, *L'Extrême Orient*, p. 535.

*Coromora fl.* Schöner mentions this river in his *Luculentissima* f. 54v; it is from Marco Polo 2.40, who calls it the Caramoran<sup>201</sup>; this is the Hwang Ho or Yellow River.

*Chayra prouincia*. This is Yunnan Province in southwestern China. Schöner says in his *Luculentissima* f. 53v that this province has seven kingdoms, all subject to the great Cham; that the people are idolaters, and that there are serpents ten feet long.<sup>202</sup> Waldseemüller calls the province *Chairam* and his legend is very similar to the text in the *Luculentissima* but does not mention the serpents. This province is the Carajan of Marco Polo 2.48; the details in Schöner's text and Waldseemüller's legend come from this chapter, except for the detail about the serpents, which comes from Marco Polo 2.49.

*Oma lacus*. Waldseemüller's legend reads: *oman lacus 100 miliariorum in circuitu* [the lake of Oman which is 100 miles in circumference], and this clearly indicates that is the unnamed lake with this same characteristic in Marco Polo 2.48 (i.e., in Chayra / Carajam), but Polo does not indicate that it has anything to do with the river Quian / Kian (see p. 61 on the *Oman fl.*). In his description of the Oman River in the *Luculentissima* f. 54v Schöner mentions that it forms lakes and swamps in its course (also see p. 73 on the *Oman lacus*).

### Northern Asia, Approximately 215° East, and South to About 37° North

*Iudei clausi*. In his *Luculentissima* f. 53v (erroneously marked 54) Schöner says that the Enclosed Jews are contained between two large mountains and the Eastern Ocean; they are very ferocious and eat each other, not even sparing friends.<sup>203</sup> The idea that Alexander enclosed the ten exiled tribes of the Jews as punishment for their apostasy from the true God is a variant of the story that Alexander imprisoned the evil races of Gog and Magog, who will burst

forth in the Last Days to ravage the earth before their final destruction (Ezekiel 38:1–39:16; Revelation 20:7–10).<sup>204</sup> Schöner relates this latter version of the story on f. 46v of the *Luculentissima* in connection with the *Caspii montes*,<sup>205</sup> which is the name generally ascribed to the mountains that enclose Gog and Magog. On f. 46v Schöner is describing the region around the Caspian Sea, which is where one would expect the *Caspii montes* to appear, but he does not represent these mountains on his globe, and this separation of the Enclosed Nations and the Caspian Mountains goes back to Marco Polo. In his Book 1, Chap. 59 on the Province of Tenduc, Polo places Gog and Magog in the far northeast, but he places the mountains where Alexander enclosed the races near the Caspian in his Book 1, Chap. 4 on Georgiana. For example, on the Borgia XVI *mappamundi* the *porte ferre* with which Alexander was supposed to have enclosed these peoples are located west of the Caspian Sea, whereas the legends relating to the enclosure of Gog and Magog are enclosed behind mountains in the far northeastern part of the world.<sup>206</sup> The position of the *iudaei clausi* on Waldseemüller's map and Schöner's globe is similar to that on the Henricus Martellus map of c. 1489 in the British Library, the Contarini map of 1506, and others.<sup>207</sup> Fra Mauro has a long legend on his map clarifying the matter: see Falchetta, *Fra Mauro's World Map*, \*2403, pp. 616–619.

*Ecclesie 3 christianorum*. [Three Christian churches.] In his *Luculentissima* f. 53v (erroneously marked 54r) Schöner writes: *Tamgut prouintia magna: In ea sunt aliquae aecclesiae Christianorum* [The great province of Tangut in which there are some Christian churches]. Waldseemüller has *hic sunt 3 ecclesie christianorum*, and illustrates the three churches (one is well to the west of the other two); the three churches are also illustrated on Contarini's 1506 map with the legend *hic sunt tres ecclesie christianorum*. These are the three churches mentioned by Marco Polo in his Book 1, Chap. 58 "Of the Province of Egrigaia." He says that Egrigaia is part of the province of Tangut, and on Waldseemüller's map and Schöner's globe the toponyms *tangut provincia magna* and *tangut*, respectively, are just to the east of the churches.<sup>208</sup>

*Tangut*. In his *Luculentissima* f. 53v (mistakenly labeled f. 54) Schöner just mentions the Christian churches in the province; see Marco Polo 1.40 and Hallberg, *L'Extrême Orient*, pp. 507–508, s.v. "Tangut."<sup>209</sup>

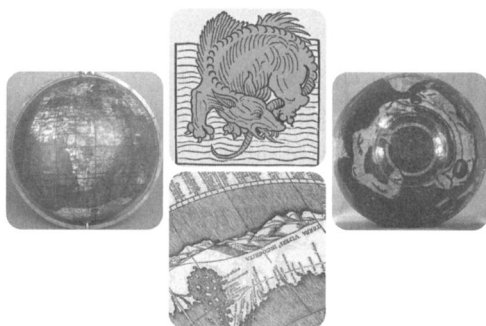
*Syngiu*. Listed without description in the *Luculentissima* f. 60r; Waldseemüller gives *Cingui*; this is the Sinju of Marco Polo 1.57, usually now written Singiu.

*polisacus*. Schöner describes the river briefly in his *Luculentissima* f. 54v; this is the Pulisanghin River of Marco Polo 1.35, which Fra Mauro calls Polisanchin.<sup>210</sup>

*Chatay*. Schöner in his *Luculentissima* f. 53v (misabeled f. 54) has a paragraph on the province of Cathay, discussing its riches in jewels, medicinal roots, and colorful clothes; he also mentions that the wives have the custom of carrying

fancy leather sandals in their husbands' size on their heads to indicate their subjugation to their husbands; the province is large and there is so much trade in luxury goods like spices and silk that it is easier to buy fancy clothes than plain ones.<sup>211</sup>

*Oman fl.* See the *Luculentissima* f. 44r where Schöner describes the great length of the river that stretches across much of Eastern Asia. He also describes the river on f. 54v, saying that it forms lakes and swamps in its course, flows through Quinsay which is the largest city in the world, and then flows into the Eastern Ocean. The name is a misreading of Quian in Marco Polo 2.71; i.e., the Kian River in Yule's translation, which Polo calls "the greatest river in the world"; Schöner depicts and describes (*Luculentissima* f. 54v) both the Oman and the Quian, which are thus evidently double representations of the same river. The river is the Yangtze, which was sometimes called the Yangtze Kiang.



## MIDDLE EAST AND THE RED SEA

The toponyms in the Middle East on the Weimar globe are very faded, and others were damaged in the misguided “restoration” of this part of the globe, which resulted in the expansion of the Persian Gulf, as will be described shortly.

*Armenia maior*. Ptolemy 5.12. On the Frankfurt globe there is a break in the line of longitude so that it does not cover part of this toponym, but on the Weimar globe the redrawn line longitude runs right across the toponym; compare my previous note on the *Caucasus* in Northern Asia.<sup>212</sup>

*Tartaria magna*. Great Tartary.

*Euphrates fl.* The name is damaged on the Frankfurt globe and faded on the Weimar globe, but easily legible on the Library of Congress gores. See the *Luculentissima* f. 46v.

*Niphates*. The name of these mountains is illegible on the Weimar globe; it comes from Ptolemy 5.12; Waldseemüller mistakenly gives *minphates mons*.

*tigris fl.* The name is illegible on the Weimar globe; Schöner describes the river briefly in his *Luculentissima* ff. 43v and 46v, saying in the latter passage that it got its name from the speed with which it flows. The affluents of the Tigris are

very different on the two globes; this is connected with the differences between the contours of the Persian Gulfs on the two globes described earlier.

*Mesopotam[ia]*. The name is illegible on the Weimar globe; the region is briefly described by Schöner in his *Luculentissima* f. 47v, who says that it is rich in both fruit and herds as well as in metals; see Ptolemy 5.17.

*Susiana*. The name does not appear on the Weimar globe due to the restored contours of Persian Gulf; Schöner very briefly describes the region in his *Luculentissima* f. 48r; see Ptolemy 5.19 and 6.3.

*Babilonia*. On the Weimar globe the name was submerged in the expansion of the Persian Gulf during the misguided restoration of this part of the globe; Schöner describes the region of Babylon on f. 47v of his *Luculentissima*, saying that it is rich in fruits, grape vines, spices, gems, metals, camels, horses, asses, mules, as well as monstrous creatures, and that King Nebuchadnezzar ruled here.<sup>213</sup> Schöner describes the city of Babylon on f. 58r, mentioning that this is where the Tower of Babel was built. See Ptolemy 5.19.

*Persidi*. The name is invisible on the Weimar globe; Schöner describes the *Persidis regio* on ff. 48r–48v of his *Luculentissima*; see Ptolemy 6.4.

*Chaldea*. This toponym, like *Babilonia*, was lost in the expanded Persian Gulf on the Weimar globe; Schöner describes the region very briefly in his *Luculentissima* f. 47v; see Ptolemy 5.19.

*Arabia deserta*. The name is very faded on the Weimar globe; it is listed but not described by Schöner in his *Luculentissima* f. 47v; see Ptolemy 5.18. This is one of the three classical divisions of Arabia, which are Arabia Felix (Happy Arabia), Arabia Deserta (Desert Arabia), and Arabia Petraea (Stony Arabia); on this division see Ptolemy 6.7.<sup>214</sup>

*Siria*. Syria. The name is very faded on the Weimar globe; Schöner briefly describes it as a land of milk and honey in his *Luculentissima* f. 46v; see Ptolemy 5.14.

*Iudea*. Judea. Again the name is very faded on the Weimar globe; very briefly described by Schöner in his *Luculentissima* f. 47r; see Ptolemy 5.15.

*Hierosolyma*. Jerusalem. The name is very faded on the Weimar globe; Schöner summarizes very briefly the events important in the history of Christianity which occurred in the city in his *Luculentissima* f. 57v; see Ptolemy 5.15.

*sina m.* This is Mount Sinai; Waldseemüller places the name further to the west, at a mountain that Schöner shows but does not label; Schöner in his *Luculentissima* f. 43v mentions that Saint Catherine is buried here.

*Montane arabie*. The name is illegible on the Weimar globe; Waldseemüller gives *montana felicitis arabie*; briefly described by Schöner in his *Luculentissima* ff. 43v and 49r; see Ptolemy 6.7.

*Sinus Arabicus*. Schöner uses Ptolemy's name for the Red Sea,<sup>215</sup> though Waldseemüller does not, instead calling it *MARE RUBRUM*; Schöner follows Ptole-

maic maps in placing the the name *Mare Rubrum* (see the following) in the mouth of the sea, which Waldseemüller also does.

*Chersonesus*. The name is very faded on the Weimar globe, and is absent entirely from Waldseemüller's map; see Ptolemy 6.7.

*Betius fl.* Schöner briefly describes the river in his *Luculentissima* f. 49r; see Ptolemy 6.7.

*mecha*. Mecca. The name is invisible on the Weimar globe; Waldseemüller gives *Mahche* but incorrectly places the city further inland; in the *Luculentissima* f. 58v under *Meccha* we read: *Ibi Mahumeth sepultus pendet in aere. Ibi Alchoranus liber componitur* [There the tomb of Mahommed is supended in the air; there the Koran was composed]. Mahommed was actually buried in Medina, but in the medieval West he was believed to have been buried in Mecca. It was also believed that his tomb was suspended in the air. This myth is recorded in legends on Angelino Dalorto's chart of 1325 or 1330, Angelino Dulcert's chart of 1339, the Pizzigani chart of 1367, and Mecia de Viladestes' chart of 1413, and goes back to the late eleventh- or early twelfth-century poem *Historia de Mahumete* by Hildebert, Archbishop of Tours.<sup>216</sup>

*Zames m.* The mountain is not labeled on Waldseemüller's 1507 map; Schöner briefly mentions it twice in his *Luculentissima* f. 49r; from Ptolemy 6.7.

*didimi*. In the eastern part of the Arabian Peninsula; the name is invisible on the Weimar globe; Schöner briefly mentions these mountains in his *Luculentissima* f. 49r; see Ptolemy 6.7.

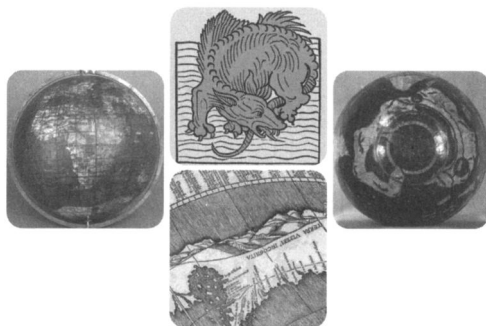
*Arabia Felix huic prefuit Gaspar magus*. [Arabia Felix; here Gaspar, one of the Three Wise Men, was king.] Schöner located the homelands of the other two Wise Men, Balthasar and Melchior, in Africa and Asia, respectively. John of Hildesheim in his *Historia trium regum* locates Gaspar in Tharsis in Asia,<sup>217</sup> so Schöner is certainly not following Hildesheim closely here. Andreas Walsperger in his world map of 1448 comes closer to locating Gaspar where John of Hildesheim indicates by locating him in the Aurea Chersonesus: this is where Walsperger places the legend *Hic rex Caspar habitauit* [Here lived king Gaspar].<sup>218</sup> Waldseemüller's map does not include information about Gaspar's kingdom in Arabia Felix or about the kingdoms of the other Wise Men.

*saba*. Sheba. The name is invisible on the Weimar globe. Schöner in his *Luculentissima* f. 58v says of Saba that *Hanc Gaspar magus quondam inhabitasse dicunt* [They say that Gaspar, one of the Three Wise Men, once lived here], but says nothing about Saba having been the city of the Queen of Sheba (see 1 Kings 10 and 2 Chronicles 9).<sup>219</sup> See Hallberg, *L'Extrême Orient*, pp. 436–437.

*Adem*. This is Aden. The name is invisible on the Weimar globe, and I do not find it mentioned in Schöner's *Luculentissima*. Aden was a very important center

of trade and is mentioned in the long legend on the spice trade on Martin Behaim's globe of 1492<sup>220</sup>; see Marco Polo 3.36, and Hallberg, *L'Extrême Orient*, pp. 8–10.

*Rubrum Mare*. The name is very faded on the Weimar globe. As mentioned previously on *Sinus Arabicus*, Schöner follows Ptolemaic maps in his placement of this toponym.



## THE PERSIAN GULF

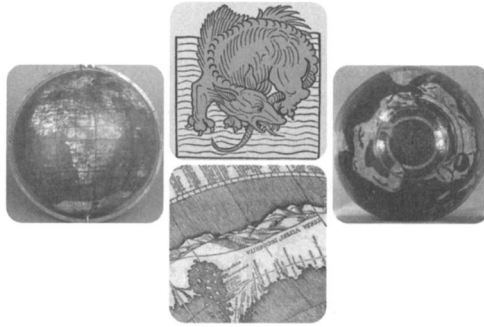
This is the locus of one of the more striking differences between the Frankfurt and Weimar globes; namely, that between the shapes of the Gulfs. On the Frankfurt globe (and on the Library of Congress gores) it is more or less rectangular with a narrow opening, whereas on the Weimar globe it has a subgulf in its northwestern corner, then a peninsula jutting southward, then another subgulf in its northeastern corner. In addition, the Frankfurt globe has a peninsula that narrows the opening to the gulf, which the Weimar globe does not have. Finally, the Gulf on the Weimar globe does not have all of the islands of the Gulf on the Frankfurt globe. The depiction of the Gulf on the Frankfurt globe is much closer to that in Waldseemüller's map. The lines marking the shores of the Gulf on the Weimar globe are dark and have clearly been redrawn, and during this redrawing lines which on the Frankfurt globe indicate mountains and rivers were made the new shores of the Gulf. Thus, it seems likely that before the redrawing this whole area was very faded on the Weimar globe and the various lines difficult to distinguish. Incidentally, Schöner evidently has no knowledge of recent Portuguese activity in the Gulf.<sup>221</sup>



*Sinus Persicus*. The name is almost invisible on the Weimar globe. Schöner does not give any description of the Gulf in the *Luculentissima*.<sup>222</sup>

*Cadan*. The name is invisible on the Weimar globe; in the *Luculentissima* f. 49v Schöner gives *Cadana* but no other details about the island; Waldseemüller gives *cadana* and Ptolemy 6.8 *Sagdana*.

*tilus*. Schöner does not mention the island in the *Luculentissima*; Waldseemüller gives *thilus* and Ptolemy 6.7 has *Tylus*; see Arrian *Anabasis* 6.20.6–7 and Strabo 16.3.4 who calls it *Tyros*; this is Bahrain.



## SOUTHERN ASIA

I will pick up at the southernmost points reached in the section on Northern Asia, and read from north to south, then move to the east, and read north to south again. The area of faded toponyms in northern central Asia on the the Weimar globe (from *Asmiroi m* south) continues into southern Asia, and the names on the *Aurea chersonesus*, and many of those on the larger Catigara or so-called "Tiger-leg" peninsula to the east,<sup>223</sup> are extremely faded, whereas many of the mountains and rivers have obviously been redrawn.

### Southwestern Asia from about 35° North, 95° East, South to the Indian Ocean

*Coronus m.* Briefly mentioned in the *Luculentissima* f. 48r; from Ptolemy 6.5.

*Parthia.* Schöner in his *Luculentissima* f. 48v mentions the ferocious beasts that inhabit the region: leopards, tigers, lynxes, asps, and savage serpents; the people are tough and cruel and they have little; they are brought up hunting, and they hunt with spears and bows and arrows, and they are excellent archers; this is where the storks settle when they migrate from Europe.<sup>224</sup> See Ptolemy 6.5.

*Rogomanis fl.* The name is almost illegible on the Weimar globe; listed in the *Lu-*

*culentissima* f. 48v; this river is not labeled on Waldseemüller's map; see Ptolemy 6.4 who gives *Rhogomanis*.

*Carmania deserta*. The name is almost illegible on the Weimar globe; there is a very brief description in the *Luculentissima* f. 48v; see Ptolemy 6.6.

*Carmania*. Again the name is almost illegible on the Weimar globe; in the *Luculentissima* f. 49v Schöner says that the people lack horses and therefore ride asses into battle; they sacrifice asses to Mars, who is the only god they worship, and they are very warlike. See Ptolemy 6.8; Hallberg, *L'Extrême Orient*, pp. 118–120, and *Pauly's Real-Encyclopädie der classischen Altertumswissenschaft*, Vol. 10, cols. 1955–1956, s.v. "Karmania."

### Southwestern Asia from about 35° North, 105° East, South to the Indian Ocean

*Zariphi m.* In his *Luculentissima* f. 50r Schöner spells it *Saphirus*; Waldseemüller does not name this mountain range; see Ptolemy 6.10.

*Masdoranus mons.* See the *Luculentissima* f. 50r and Ptolemy 6.5.

*Aria*. In the *Luculentissima* f. 51r Schöner mentions that the region is very rich in grapes and is surrounded by mountains; see Ptolemy 6.17.

*Bagous mons.* See the *Luculentissima* f. 51v and Ptolemy 6.19.

*Drangiana*. This region is now part of Afghanistan, Pakistan and Eastern Iran. In the *Luculentissima* f. 51r Schöner mentions that the goats here have large ears and very fine hair; the people have fine silk clothes and gemstones. See Ptolemy 6.19 and Hallberg, *L'Extrême Orient*, p. 192, s.v. "Dragiana."

*Gedrosia*. Schöner describes the region briefly in his *Luculentissima* f. 51v; the parts of the name are separated on the globes and the letters "Ge" are illegible on the Weimar globe. See Ptolemy 6.21 and Hallberg, *L'Extrême Orient*, p. 217.

*persici m.* This name is illegible on the Weimar globe; an error or alternative spelling of the *Parsici montes*; I do not find either name in the *Luculentissima* or in the relevant chapter (6.21) of Ptolemy, but these mountains do appear in manuscript Ptolemaic maps.

### Southwestern Asia from about 35° North, 115° East, South to the Indian Ocean

*Paropanisus*. Brief remarks in the *Luculentissima* f. 51r; see Ptolemy 6.18 and Hallberg, *L'Extrême Orient*, p. 393, s.v. "Paropanisates."

*Arachosia*. See Schöner's *Luculentissima* f. 51v, Ptolemy 6.20, and Hallberg, *L'Extrême Orient*, pp. 33–34.

*betio m.* See Ptolemy 6.19–21.

*Indus fl.* Schöner describes the river in similar terms twice in his *Luculentissima*, in ff. 43v–44r and 52r–52v, saying that it rises from Mount Imaus and that it produces crocodiles like the Nile, has sixty tributary rivers, and empties into the Indian Ocean by way of seven mouths. See Ptolemy 6.20–21.

*Cambeia*. This is Khambhat, formerly known as Cambay, in Gujarat, India. In his *Luculentissima* f. 52r Schöner says that this region used to be called *Sirastrena*, and is inhabited by Cyclopes who have one eye in their faces.<sup>225</sup> This name does not appear on Waldseemüller's map; Marco Polo 3.28 calls it Cambaet, but mentions neither the name *Sirastrena* nor the Cyclopes, and it is not clear what Schöner's source was; see Hallberg, *L'Extrême Orient*, p. 101, s.v. "Cambaet." The Cantino map has a legend that describes the products available here<sup>226</sup>; on the Caverio map it is *Cambaia*.

*namadus fl.* See the *Luculentissima* f. 52v and Ptolemy 7.1.

*Goa*. Briefly mentioned in the *Luculentissima* f. 52r; does not appear on Waldseemüller's 1507 map, so it would be interesting to know what source Schöner was using. Goa does not appear on the Cantino or Caverio maps; it is worth mentioning that the geography of India on those two maps is entirely different from that on Waldseemüller's 1507 map and Schöner's 1515 globe. The depiction of India on Waldseemüller's 1516 *Carta marina* is generally quite similar to that on the Cantino and Caverio maps, but on that map he includes *Goga insula*, which represents Goa. It seems likely that Waldseemüller's source in his *Carta marina* was the *Itinerario* of Ludovico di Varthema, who had visited Goa in perhaps 1505, before its conquest by the Portuguese beginning in 1510, and whose account of his travels was first published in Rome in 1510: he refers to Goa as *Goga*.<sup>227</sup> Chronologically Varthema could have been Schöner's source about Goa, but as Schöner does not spell the name *Goga*, the matter is unclear.

*Chalicutia*. This is Calicut, now Kozhikode, in southwestern India. In the *Luculentissima* f. 52r Schöner merely says that the region is rich in spices; he also mentions it on f. 39v as one of the destinations of the voyage around Africa that he describes; I will transcribe and translate this description in Appendix 4. The Cantino map has a legend listing the province's abundance of exotic goods for trade.<sup>228</sup> Waldseemüller's legend on his 1507 map is very similar to that on the Cantino map,<sup>229</sup> whereas on his 1516 *Carta marina* he has a large text block listing the places from which spices are brought to the famous port of Calicut (*Loca insigniora de quibus portantur aromata ad Calicutium emporium omnium celebratissimum*). Ludovico di Varthema gives a long description of Calicut in the early sixteenth century, including a chapter on the spices which grow in the area.<sup>230</sup>

### Southwestern Asia from about 35° North, 125° East, South to the Indian Ocean

*Indus fl.* Here the name appears close to the river's sources—the many tributaries mentioned in the *Luculentissima* ff. 43v–44r and 52r–52v are depicted on the globe.

*ganges fl.* Schöner describes the river in ff. 44r and 52v of his *Luculentissima*, saying that it rises from Mount Imaus and flows to the *Sinus Gangeticus*, and was once called the Physon (see Genesis 2:11).

*Zoas fl.* I do not find this river in the *Luculentissima*; Waldseemüller calls it *soas fl.*, as does Ptolemy 7.1.

*bepirus fl.* The name is faded on the Weimar globe; see the *Luculentissima* f. 52v and Ptolemy 7.2.

*bepirus m.* The name is illegible on the Weimar globe; see the *Luculentissima* f. 52v and Ptolemy 7.2.

*Eiulath de qua in Genesi.* [Eiulath, which is mentioned in Genesis.] Genesis 2:10 lists the four rivers of Paradise, and Genesis 2:11 says "The name of the first is Pison: that is it which compasseth the whole land of Havilah where there is gold"; see also Genesis 10:7.<sup>231</sup> The Pison is traditionally identified with the Ganges, and *Eiulath* is located near the source of the Ganges on Schöner's globe (see Fig. 18). In his *Luculentissima* f. 52r Schöner describes the gold, pearls, and precious stones of Eiulat and Ophir, citing 1 Kings 9 and 10 and not Genesis, presumably referring to the *Ailath* mentioned in 1 Kings 9:26; however this is explicitly located on the shore of the Red Sea.<sup>232</sup> Schöner's description is very similar indeed to Behaim's legend on the region (see Ravenstein, *Martin Behaim*, p. 94), which he calls *Havilla*, and either the two cartographers were using the same source, or Schöner, after borrowing this material from Behaim's globe, both corrected Behaim's citation of "3 Kings" to "1 Kings" and added for example the details about the types of precious stones found in Eiulath. Behaim and Schöner are among very few late fifteenth- or early sixteenth-century cartographers who place Eiulath in their works; it does appear in the map in the map illustrating the *Rudimentum Novitiorum* (Lübeck, 1475), but curiously just north of Paradise; it does not appear on Waldseemüller's 1507 map.<sup>233</sup> John Mandeville in the chapter his *Travels* on the rivers of Paradise refers to Eiulath as Emlak; see also Hallberg, *L'Extrême Orient*, p. 202, s.v. "Evilach."

*Vindius mons.* In his *Luculentissima* f. 52v Schöner says that it was on this mountain that the Trees of the Sun and Moon were located, which predicted to Alexander the Great his death, an episode related in all of the ancient accounts of Alexander, and also in their medieval descendants.<sup>234</sup> See Ptolemy 7.1.

*India intra gangem.* India within the Ganges. See the *Luculentissima* ff. 51v–52r and Ptolemy 7.1.

*bitigo m.* The mountain is not mentioned in the *Luculentissima*, though the *Bitigi* people are on f. 52r; Ptolemy 7.1 has *Bittigo*.

*barius fl.* Not in the *Luculentissima*; Ptolemy 7.1 gives *Baris*.

*orudy m.* Mentioned in the *Luculentissima* f. 52v as *Orudii montes*; see Ptolemy 7.1.

*thina fl.* Ptolemy 7.1 gives *Tyna*.

*Vxentus mons.* Briefly mentioned in the *Luculentissima* f. 52v; see Ptolemy 7.1–2.

*chinus fl.* Waldseemüller gives *chindis fl.* and Ptolemy 7.1 *Tyndis*. The Frankfurt globe shows three rivers flowing south from the *Vxentus mons*, and the (unnamed) easternmost of these rivers is very faded on the Weimar globe.

### Southwestern Asia from about 35° North, 155° East, South to the Indian Ocean

*doana fl.* The *Luculentissima* f. 52v gives *Doamas*; the name is illegible on the Weimar globe; Ptolemy 7.2 gives *Daona*.

*damasi m.* The name does not appear in the *Luculentissima* and is illegible on the Weimar globe; see Ptolemy 7.2.

*doana fl.* A repetition of the name mentioned earlier.

*India ultra gangem fl.* See the *Luculentissima* f. 52v and Ptolemy 7.2; the name is faded on the Weimar globe.

*Meandrus & Victoralis m.* These names are illegible on the Weimar globe; Waldseemüller gives *meandrus mons* (which comes from Ptolemy 7.2), but says nothing about *Victoralis*. The *Luculentissima* ff. 52v–53r says that *Victoralis* is called *Faus* in the vernacular, and that it was from this mountain that a new star was seen in accordance with Balaam's prophecy (see Numbers 24:17 and Matthew 2:2 and 2:9–10) that guided the Three Wise Men to Bethlehem where they built a church in which they died and were miraculously buried. St. Thomas, Schöner adds, brought light to this region and to almost all of India and there made Gaspar, Balthasar, and Melchior bishops before their deaths.<sup>235</sup> The *mons vaus* (i.e., *Victoralis*), appears on Walsperger's map of 1448; Behaim's globe does not have the toponym *Victoralis*, but beside the *meandra gebirge* there is an incomplete legend that reads *hie in disem gebiigist ein berg genent Vaus auf welchen noch...* [Here in these mountains is a mountain called Vaus, upon which...].<sup>236</sup> The *Mons Victoralis* is mentioned as the place of watching for signs of the coming of the Messiah in the *Opus imperfectum in Matthaeum* (see *Patrologia Graeca* 56:611–946, esp. col. 637), and Peter Abelard, *Sermones ad virgines paraclitenses in oratorio ejus constitutas*, Sermo 4, "In epiphania Domini" (see *Patrologia Latina* 178:413), and more importantly in John of Hildesheim's *Historia trium regum*, Chap. 3.<sup>237</sup>

*Ibi fuit prima sepultura trium magorum.* [The Three Wise Men were first buried there.]

This legend is almost illegible on the Weimar globe, and there is nothing similar on Behaim or Waldseemüller. Schöner's source is no doubt John of Hildesheim's *Historia trium regum*, Chap. 36.<sup>238</sup>

*sobanus fl.* Not in the *Luculentissima*; see Ptolemy 7.2.

*Aurea chersonesus.* The Malay Peninsula; the name is illegible on the Weimar globe.

Schöner in the *Luculentissima* f. 52v says that the inhabitants call it *Melacha*, and that nutmeg and clove trees grow there. See Ptolemy 7.2 and Hallberg, *L'Extrême Orient*, p. 297, s.v. "Kersonesis Aurea."<sup>239</sup>

### Southwestern Asia from about 35° North, 175° East, South to the Indian Ocean (includes toponyms on the Catigara or "Tiger-leg" peninsula)

*Octotorares.* Listed as *Ortorocoraces* in the *Luculentissima* f. 53v; illegible on the Weimar globe; see Ptolemy 6.16 who gives *Ottorocorae*, and Hallberg, *L'Extrême Orient*, p. 386, s.v. "Othrar."

*Coromora fl.* Mentioned in the *Luculentissima* f. 54v; this is a continuation of the river of the same name that I discussed earlier in my notes on northern Asia.

*Semantini.* Listed in the *Luculentissima* f. 53v; see Ptolemy 7.2–3, who spells it *Semantheniae*, and Hallberg, *L'Extrême Orient*, pp. 467–468.

*Semantini montes.* The name is illegible on the Weimar globe; see Ptolemy 7.2.

*Serus fl.* Mentioned in the *Luculentissima* f. 52v; the name is damaged on the Frankfurt globe, and very faded on the Weimar globe; from Ptolemy 7.2.

*Oman lacus.* I discussed the *Oma lacus*, which is another lake on the Oman River to the northeast of this one, in the section on northern Asia (see p. 59); Waldseemüller also shows both lakes, and beside this one has the legend *oman lacus in quo pescantur perle* [Oman Lake in which pearls are gathered].

*Oman fl.* The continuation of the Yangtze in northern Asia that I discussed earlier.

*Athadre.* The name is almost illegible on the Weimar globe; it is listed as *Achadrae* in the *Luculentissima* f. 53v; Ptolemy 7.2 gives *Acadrae*.

*Sinarum regio.* "Region of the Chinese." Evidently a synonym for the *Sina regio* of the *Luculentissima* f. 53v, which Schöner does not describe in any detail.

*Aspitarus fl.* Not mentioned in the *Luculentissima*; see Ptolemy 7.2 who gives *Aspithara*.

*Sine.* In the *Luculentissima* f. 53v Schöner gives *Sina regio*, but without any substantial description.

*Murfuli.* Also written *Motupali* in other sources; this is Andhra Pradesh in India. There are three occurrences of this toponym both on Schöner's globe and on Waldseemüller's map. Schöner's description of the region in his *Luculentissima* f. 54r focuses on the precious stones mentioned in the next legend. See also Marco Polo 3.19, and Hallberg, *L'Extrême Orient*, pp. 364–365, s.v. "Mutfili."

*In montibus istis lapides preciosi Adamantes reperiuntur sed inacessibiles propter serpentes.*

[In these mountains precious stones—diamonds—are found, but are inaccessible because of the serpents.] The legend is faded on the Weimar globe; in his *Luculentissima* f. 54r Schöner gives more detail, saying that the serpents are large and very numerous and that men gather the diamonds by waiting until after the rains and then going to the rivers that flow down from the mountains and looking in their sands.<sup>240</sup> Waldseemüller's legend on his 1507 map is quite similar to Schöner's text in his *Luculentissima*, and part (but not all) of this text seems to come from the Latin version of Marco Polo's chapter on the Mutfli (3.19 in Yule's translation). Many sources describe mountains with gold where there are many serpents, without mentioning diamonds or jewels,<sup>241</sup> whereas others include the diamonds.<sup>242</sup>

*Murfuli.* This is the second occurrence of this toponym; see earlier. The mountains in this area of the Weimar globe are obviously redrawn.

*Moabar provincia habet quinque regna.* [The province of Moabar has five kingdoms.]

The legend is damaged and faded on the Weimar globe. In the *Luculentissima* f. 54r Schöner mentions that the province has five kingdoms and is very rich, and has both magicians and diamonds. This is the Coromandel coast in southeastern India. See Marco Polo 3.16, Hallberg, *L'Extrême Orient*, pp. 320–323, s.v. "Maabar," and Stevenson, *Marine World Chart*, p. 113, for the legend on the Caverio map.

*Egrisilla.* This toponym is damaged and illegible on the Weimar globe; it does not appear on Waldseemüller's map. In his *Luculentissima* f. 54r Schöner writes: *Egrisilla regio in qua sunt christiani Bragmanni. Ibi Gaspar magus fertur habuisse dominum* [The region of Egrisilla in which there are Christian Brahmans; there Gaspar, one of the Three Wise Men, is held to have been king.] Gaspar's homeland, however, was *Arabia foelix*, as both a legend on the globe and the text in the *Luculentissima* f. 49r indicate. Other spellings of the toponym from manuscripts of the *Historia trium regum* include Egrisuela, Egrisoulla, Grisculla, Egrisculla, Egrosilla, and Egriscula. In the *Historia trium regum* Egrisilla is identified as an island,<sup>243</sup> whereas Schöner, and before him Behaim, place it on the large Indian peninsula that juts south into the Indian Ocean—Behaim places it further south, at the southern tip of the peninsula, south of Coilum (i.e., Quilon).<sup>244</sup> Schöner, however, was familiar with the idea that the Three Wise Men came from an island: In his *Luculentissima* f. 49r he writes: *Magorum insula. Sinus Arabici: unde Melchior magus Thus & Myrrham dona ferens Iesu domino nostro obtulit. Cuius situs est in gradibus 68.30, 16.30* [The island of the Three Wise Men in the Red Sea, whence Melchior brought gifts of frankincense and myrrh to Jesus our Lord; the island is at 68°30', 16°30']. No island with this name appears on Schöner's 1515 globe, but there is an island labeled *Magorum* in the Red Sea on his 1520 globe.



*Bragmanni*. The name has been obliterated by damage on the Weimar globe; Schöner spells the name *Bragmannae* in the *Luculentissima* f. 52r, and gives a brief description of these famous Indian philosophers,<sup>245</sup> mentioning that Apollonius of Tyre visited them to learn from them. The name does not appear on Waldseemüller's map.

*India*. Waldseemüller also reminds us that we are still in *INDIA* near this point on the Catigara peninsula.

*Magaragoy*. The name is faded on the Weimar globe; it is positioned like it might be the name of the nearby river, but it is not. Schöner in his *Luculentissima* f. 54r says that the city is the site of much trade, and that the king has five wives; both details are mentioned by Waldseemüller. The legend on the Cantino map specifies that rubies are traded here<sup>246</sup>; the legend on the Caverio map is very similar (see Stevenson, *Marine World Chart*, p. 113).

*Madagarit*. Schöner does not mention this city in his *Luculentissima*, but it does appear on Waldseemüller's map. The legend on the Cantino map describes the exotic items of trade available at the city.<sup>247</sup>

*Varre regio*. In his *Luculentissima* f. 54r Schöner mentions only that cows are worshipped here; Waldseemüller gives *Regnum Varr*. The name is probably a duplicate of Lar in Marco Polo 3.22.<sup>248</sup> See further on *Lac Regnum* just below.

*Mallaqua ibi ociditur S Thomas*. [Malacca where Saint Thomas was killed.] The legend is almost illegible on the Weimar globe; Waldseemüller seems to place the location of St. Thomas's death a bit south of Malacca.<sup>249</sup> In his *Luculentissima* f. 60r Schöner mentions that the city is also called *Malpuria*. The Cantino map has a long legend about all of the exotic goods of trade that come to Malacca<sup>250</sup>; the Caverio map lacks a descriptive legend about the city.

*Lac Regnum*. The name is very faded on the Weimar globe; Schöner in his *Luculentissima* f. 54r briefly describes the kingdom, saying that the Habrayani [i.e., Brahmins] live there, who are honest and pious and just but worship cattle and are naked; and they have shittah wood.<sup>251</sup> This material, except for the last detail, comes from Marco Polo 3.20 on the Province of Lar.<sup>252</sup> The identity of setim (this is the name used in the Vulgate) shittah (singular) or shittim (plural) wood here is not certain. In Biblical contexts it is generally thought to be acacia;<sup>253</sup> Porro Gutiérrez says that it is sandalwood on early Renaissance maps,<sup>254</sup> and this identification seems to be correct, as there are four legends on the Cantino map which locate sandalwood on the Malay Peninsula, and similar legends on the Caverio map,<sup>255</sup> but no mention of acacia in this region in any map that I have seen.

*Coilu regnum*. This is Quilon, in southwestern India. The name is very faded on the Weimar globe; in his *Luculentissima* f. 54r Schöner says that there are Christians and Jews and idolaters here; they have their own language, their king is tributary to no other, and there are many different spices.<sup>256</sup> See Marco Polo 3.22 and Hallberg, *L'Extrême Orient*, pp. 153–156.<sup>257</sup>

### Southwestern Asia from about 35° North, 205° East, South to the Indian Ocean

*Presbyter Ioannes dominus maioris partis indie ibi dominatur.* [Prester John, lord of the greater part of India, ruled there.] The mythical eastern Christian monarch Prester John was discussed earlier in connection with the African toponym *Habesch* (see p. 46); Schöner briefly mentions his power in his *Luculentissima* f. 53v; Waldseemüller has a substantial legend about Prester John in the same location on his map as Schöner's legend on his globe.<sup>258</sup>

*Lama lacus.* This lake is not mentioned by name in the *Luculentissima*, but on f. 54v Schöner mentions that the river *Lamia*, and this is certainly where the lake gets its name. Behaim gives *lamacin see*<sup>259</sup>; Waldseemüller has the legend *lama lacus hic piscatur perle* [Lama Lake, here pearls are gathered]. One thinks of the lake in Caidu mentioned in Marco Polo 2.47 where pearls are fished, but Polo does not give the lake a name, and the location of Caidu is not clear.<sup>260</sup>

*Ebanus nigrus.* [Black ebony.] The second word is illegible on the Weimar globe; Waldseemüller gives *silva ebani nigri*; this is from Marco Polo 3.5 on Chamba. Schöner briefly mentions *ebani nigri* in his description of *Cyamba* in his *Luculentissima* f. 54r.

*Cyamba provincia cuius gentes idolatre sunt habent Elephantes in copia omnia etiam genera speciorum.* [The province of Champa whose people are idolaters; they have many elephants and all types of spices.] Schöner includes this information in his description of the province in his *Luculentissima* f. 54r, also mentioning that the province has nutmeg, ebony, aloe, and shittah wood, and the people have their own language and king, and are idolaters, and have many elephants and all kinds of spices. This information is from Marco Polo 3.5 on Chamba (more commonly spelled Champa); the text in the *Luculentissima* is very similar to Waldseemüller's legend on the province; see Hallberg, *L'Extrême Orient*, pp. 173–175; the legend on the Caverio map is transcribed and translated by Stevenson, *Marine World Chart*, p. 113. Chamba or Champa was a kingdom in what is now southern Vietnam.<sup>261</sup>

*India meridionalis.* Yet another division of India.<sup>262</sup>

*Murfuli.* The third appearance of this toponym; see previously.

*silva lignorum sethin.* [Forest of shittah trees.] Waldseemüller has an almost identical legend here. As mentioned earlier the wood in question is probably sandalwood; Marco Polo does not mention that tree in this area, so the Waldseemüller and Schöner were using a source other than Polo for this information, probably the Cantino map, although Polo (3.6) does mention brazil wood in Locac (see upcoming description).

*silve nucum muscatarum.* [Forests of nutmeg.] Schöner mentions *sylvae nucum muscatarum* in *Cyamba* on f. 54r of his *Luculentissima*. Waldseemüller gives *silva*

*nucum muscarum*. This information does not come from Marco Polo.

*Loach provin.* The name is illegible on the Weimar globe; Schöner in his *Luculentissima* f. 54r mentions the province's riches in porcelain or shells, spices, and gems; the people have their own king and language and are idolaters; and there are shittah trees. See Marco Polo 3.6 (on Locac); Hallberg, *L'Extrême Orient*, p. 486 s.v. "Soucat"; and Pelliot, *Notes on Marco Polo*, Vol. 2, pp. 766–770.

*silva sethin.* [Forest of shittah trees.] The words are illegible on the Weimar globe; these trees are mentioned in the description of *Loach* in the *Luculentissima* f. 54r.

### Southwestern Asia from about 35° North, 210° East, South to the Indian Ocean

*Thebet provincia.* Tibet. In his *Luculentissima* f. 54r Schöner mentions the province's riches in spices, which are not exported, and emphasizes that it is under the dominion of Prester John, as are all the kings of India. See Hallberg, *L'Extrême Orient*, pp. 524–527, s.v. "Tebec."

*quian fl.* The Yangtze River, which was also known as the Yangtze Kiang. Schöner describes the river in his *Luculentissima* f. 54v: It rises in the mountains of Cyamba (Chamba), pouring forth through four mouths; sometimes it flows into marshes, then in narrow channels again, until it finally reaches the Eastern Ocean.<sup>263</sup> See Hallberg, *L'Extrême Orient*, p. 424. The *Oman fl* discussed earlier (see p. 61) is a doublet of this river.

*Cyamba provincia.* A repetition of the toponym discussed earlier.

*India superior.* See the *Luculentissima* ff. 53v–54r, where the province is called *India superior siue orientalis*.

*nuces mustate.* [Nutmeg]. The words are faded on the Weimar globe.

### Southwestern Asia from about 35° North, 225° East, South to the Indian Ocean

*Bangala.* Bengal, a region in eastern India. The name is damaged on the Frankfurt globe and faded on the Weimar globe. Schöner in the *Luculentissima* f. 54r just mentions that rhubarb is found here. See Marco Polo 2.55 and Hallberg, *L'Extrême Orient*, pp. 66–67.

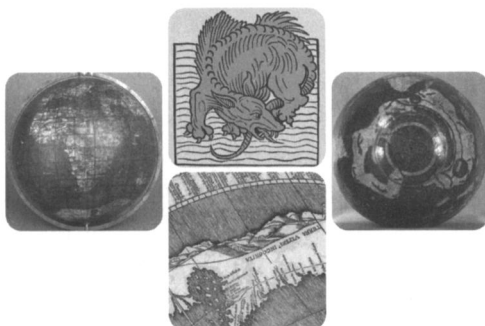
*Qu[in]sayai.* Quinsay or Kinsay, modern Hangzhou, China; Marco Polo 2.76 paints a glowing picture of the city, which obviously was one of the most impressive things he saw in during his travels; Yule in his translation of Polo has extensive notes on Polo's description in his Vol. 2, pp. 193–200, and pp. 212–215 quotes other authors' descriptions of the city. Schöner gives *Quinsai* in his *Luculentissima* f. 59v, where he says that the city is the largest in the world, 100 Italian miles in circumference with a large lake in the middle with

1200 bridges; its name means "City of Heaven"; good wine grapes grow there; and the king of Mangi Province spends much time there.<sup>264</sup> See Hallberg, *L'Extrême Orient*, pp. 425–429.<sup>265</sup>

*Mangi prov.* Also known as Manzi, an old name for southern China. The words are faded on the Weimar globe. Schöner describes the province in his *Luculentissima* f. 54r: it contains nine kingdoms and innumerable cities; huge reeds grow there, and it is the best region of the world; nobody is poor; the women are the most beautiful in the world; wives who survive their husbands are burned with them; there are white geese with red necks; wives carry a signet made of horn in their foreheads to distinguish them from virgins; and the people do not value silver, only gold.<sup>266</sup> See Marco Polo 2.43, and Hallberg, *L'Extrême Orient*, pp. 332–335, s.v. "Mangia."

*Quian fl.* A repetition of the name discussed earlier. The Yangtze River.

*Quiritaria provin[cia]*. The words are very faded on the Weimar globe. Schöner in the *Luculentissima* f. 54r just mentions that the region has wax and precious stones; wax also appears in the legend on the Cantino map about the exotic goods available in the province.<sup>267</sup> The source of this toponym has not been identified. There is an important difference between the coasts on the two globes here (see Figs. 19 and 20, and compare Fig. 4): what is a large bay on the Frankfurt globe is filled with land on the Weimar globe, and in fact on the Weimar globe some of the wave pattern is visible in what the restorer, for unknown reasons, tried to convert to land. The "restoration" of the Weimar globe is particularly clumsy here.



## OFF THE EAST COAST OF AFRICA

I proceed from north to south. In this area there is an intriguing mixture of elements from Ptolemy and more recent material including the recently discovered Comoro Islands and also *S. Laurentii* (Madagascar), which although it had been described by Marco Polo was in effect rediscovered early in the sixteenth century.

*Dioscoridis*. The name is invisible on the Weimar globe. Schöner lists the island in his *Luculentissima* f. 49v but gives no details about it. Waldseemüller gives *discoridis*. See Ptolemy 6.7, *Periplus Maris Erythraei* 30.10 and Pliny 6.32.153: this is Socotra; however, Socotra is already represented on the globe by *Scoyra* (see p. 84), so these islands are doublets like *Madagascar* and *S. Laurentii*.

[sea monster] The monster is completely different on the two globes (see Figs. 21 and 22): on the Weimar globe the whole monster seems to be a large but indistinct head, whereas on Frankfurt it has wings (which on the Weimar globe seem to be ears) and a rather batlike head with ears. Waldseemüller has a legend in this area about a sea monster: *hic cernitur leuiaton draco marinus qui frequenter contra cetum pugnat* [Here is seen a leviathan, a marine dragon that frequently fights against the whale]. In addition, the creature on the Frankfurt

globe is very similar to the forequarters of the leviathan depicted in the *Hortus sanitatis*, "De piscibus," Chap. 50, which has wings, a sturdy neck, and a rather batlike head with prominent ears.<sup>268</sup> Schöner thus seems to depict the monster rising out of the water. On Schöner's 1520 globe he has a legend very similar to Waldseemüller's just cited beneath an illustration of a different sea monster, although it still has some birdlike characteristics.

*Mene*. The name is invisible on the Weimar globe; Ptolemy 4.7 speaks of the two Menae islands.<sup>269</sup>

*Mersan*. The island itself is missing on the Weimar globe, but the name is perfectly legible; Waldseemüller gives *mirsiaca*; Ptolemy 4.7 has *Myrsiaca*.

*Barbarus sinus*. The legend is faded on the Weimar globe; from Ptolemy 4.8.

[ship] The ships are different on the two globes: the outline of the hull on the Frankfurt globe is more curved and smooth, while that on the Weimar globe is less regular; also the mast is more distinct on the Frankfurt globe.

*decomoro*. The Comoro Islands. The island that on the Frankfurt globe is located on a line of latitude does not appear on the Weimar globe, and the toponym is almost invisible on that globe as well. The islands appear neither on Waldseemüller's 1507 map nor on his *Carta marina* of 1516. The earliest cartographic appearance I have found of the islands is as the *ilhas de comaro* on a Portuguese chart of 1509 in Wolfenbüttel, Herzog August Bibliothek, Fol. 98.<sup>270</sup>

*Mare Prassodum*. Named after the Prasum Promontory in Ptolemy 1.14, 1.17, and 4.8. [unnamed island north of *S. Laurentii*] On his 1520 globe the island in this position is labeled *Minuchtias*, which is the *Menuthias* of Ptolemy 4.8.

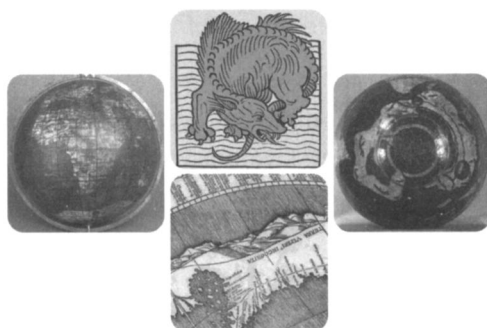
*S. Laurentii*. This is Latin for São Lourenço, the name given by the Portuguese to Madagascar. There is already a representation of Madagascar on Schöner's globe, based on the description in Marco Polo, and evidently he did not realize that the newly discovered island of *S. Laurentii* was the same as Madagascar.<sup>271</sup> On f. 39v of his *Luculentissima* Schöner suggests that the island was discovered during the voyage around Africa that he describes,<sup>272</sup> and the path traced on the globe does reach the island. This island does not appear on Waldseemüller's 1507 map (or on the Green Globe), and Schöner no doubt felt that adding this island was a significant advance over Waldseemüller's effort. The date of the sixteenth-century discovery of Madagascar is not clear; some ascribe it to Diego Dias who sailed with Pedro Álvares Cabral in 1500 to explore the Indian Ocean. On August 10, the feast day of St. Lawrence, Diego Dias, whose ship had been separated from the fleet by bad weather, came to a large island which he named St. Lawrence; others ascribe the discovery to João Gomez d'Abreu, who discovered the west coast of that island on August 10, 1506. In any case, it was discovered before the voyage around the southern tip of Africa whose route Schöner traces on his globe and describes in his *Luculentissima* f.

39v, which voyage he dates 1508 to 1513.<sup>273</sup> On the *Madagascar* / *S. Laurentii* doublet compare *Dioscoridis* and *Scoyra* discussed previously (see pp. 79 and 84). Schöner retains both representations of Madagascar on his 1520 globe. [sea monster east of *S. Laurentii*] Waldseemüller has a legend in this same location about the *orcha*,<sup>274</sup> and Schöner's monster is very similar indeed to the *orcha* depicted in the *Hortus sanitatis*, "De piscibus," Chap. 64, even in its hair style, beard, and the position of its hands (see Figs. 23 and 24). There are differences between the monsters on the two globes: on the Frankfurt globe the lower, merman portion of the creature is visible, whereas on the Weimar globe it is not. Part of the monster appears on the Library of Congress gores (see Fig. 3). On the Green Globe north of Madagascar there is a legend about the *orcha* that reads *Hic reritur* [*sic*, for *reperitur*] *Orcha monstrum*, "Here is found the monster *orcha*." On his 1520 globe Schöner has a similar creature a bit further to the north, as well as a legend about the *orcha* to the east, but at the same time it is clear that in this case he is no longer using the *Hortus sanitatis* as an iconographical source.

*Nove navigationis observatio novissima*. [New account of a recent voyage.] This legend, which has faded to illegibility on the Weimar globe, refers to the voyage around the southern tip of Africa that is traced on the globe (see Figs. 1 and 3). Schöner describes the voyage in some detail in his *Luculentissima* f. 39v, neglecting to give the name of the captain, but saying that it took place around the years 1508 to 1513, and that the voyage went from Lisbon to Calicut and Melacham (i.e., Malacca, now Melaka) in Malaysia. On the globe, however, he traces only the portion of the voyage from Cabo Roxo in western Africa to Quiloa in eastern Africa, omitting the sections from Lisbon to Cabo Roxo, and from Quiloa to India. Indeed, in his verbal description of the voyage on f. 39v he does not supply any details of the sailing to Arabia and India, even though he promises to describe those portions in his accounts of those regions: there is only one brief mention of this voyage elsewhere in the *Luculentissima* (on the *Hispani* in ff. 18v–19r), and nothing in the sections on Arabia Felix (f. 49r) or Calicut (f. 52r). In his account of the voyage on f. 39v Schöner curiously lists many toponyms on the coast of Africa, including their latitudes; however, to judge from the course traced on the globe, the fleet did not visit any of these places, but touched land only at Cabo Roxo, then *S. Laurentii* (Madagascar), and then Quiloa. In Appendix 4, I will transcribe and translate Schöner's account of the voyage, which seems to be that of Diogo Lopes de Sequeira (1466–1530), who sailed from Lisbon with four ships in 1508 (see Fig. 25).<sup>275</sup> His orders from King Manuel were to visit Magadascar, report on all aspects of the island and its inhabitants, and search for spices; and should that venture not prove fruitful, to sail on to Malacca, and to learn everything he could about

the Chinese and their trading activities.<sup>276</sup> Sequeira reached Madagascar but did not find the situation promising, and so sailed to India, stopping in Calicut and Cochin, and then on to Malacca. His ships were the first of any European power to reach Malacca (although as mentioned earlier, the Italian traveler Ludovico di Varthema had visited Malacca earlier). He established a trading post there but was then expelled, and he returned to Lisbon in 1510. In my commentary on the South Atlantic I noted that even though the tracing of the route is clear on the Frankfurt globe, on the Weimar globe the long westward portion of the voyage between the equator and the Tropic of Capricorn has disappeared, and that this is strong evidence that this portion of the Atlantic has been redrawn. The eastern trace of the voyage on the Weimar globe has clearly been redrawn, as the ink is fresh and dark, but it has been redrawn with reasonable accuracy.





# NORTHERN INDIAN OCEAN

I will discuss the islands and sea monsters of the southern Indian Ocean later in a separate section. Many legends in this part of the Weimar globe are very faded, some to invisibility, while the wave pattern in this part of that globe is generally fresh and dark. This is additional evidence that the wave pattern has been substantially redrawn on that globe.

*Carmim*. The name is invisible on the Weimar globe, nor is there any break in the waves where the name should be; the wave pattern was clearly redrawn here. The island is not described or listed in the *Luculentissima*; Waldseemüller gives *carmina*, and Ptolemy 6.8 *carminna*.

*Zenobie*. Both the island itself and the name are invisible on the Weimar globe; not mentioned in the *Luculentissima*; Waldseemüller gives *Zenobia*; from Ptolemy 6.7.<sup>277</sup>

*Virorum*. [The Island of Men.] The name is invisible on the Weimar globe (see Figs. 21 and 22); Schöner lists the island in his *Luculentissima* f. 49v, but gives only its position. Waldseemüller has *vir*i. For discussion see the next entry.

*feminarum*. [The Island of Women.] Both the island itself and the name are missing on the Weimar globe (see Figs. 21 and 22); in the *Luculentissima* f. 49v Schöner

writes that in 1285 (presumably referring to Marco Polo's voyage) in one of these islands there were only men, and in the other only women; and they came together once a year; they are Christians and have a Bishop who is subject to the Archbishop of Socotra.<sup>278</sup> Waldseemüller calls the island *femine* and his legend describing both islands is very similar indeed to the text in the *Luculentissima*. Waldseemüller seems to have translated this legend from Behaim's German, or to have used a source that Behaim also used.<sup>279</sup> These are the famous Islands of Men and Women described by Marco Polo 3.31.<sup>280</sup>

[ship] The ships are completely different on the two globes (see Figs. 21 and 22): the ship on the Frankfurt globe is larger and more elaborate, with lines following the contours of the hull that are absent on the Weimar globe. The ship on the latter globe has been redrawn.

*Indicum pelagus*. The Indian Ocean. The words are absent from the Weimar globe (see Figs. 21 and 22).

*Scoyra christiana habet Archiepiscopum*. [Socotra, a Christian island; it has an Archbishop.] The legend is very faded on the Weimar globe; the brief description in the *Luculentissima* f. 49v is very similar to the legend on the globe. See Marco Polo 3.32,<sup>281</sup> and see p. 79 on *Dioscoridis*, which is a doublet of *Scoyra*.

[sea monster south of *Scoyra*] The monster is very different on the two globes (see Figs. 21 and 22): it is fishlike on the Frankfurt globe, but on the Weimar globe it has a dragonlike head and its body is incomplete. The monster is not easy to identify; it might be intended to represent a *lupus marinus* (a sea wolf) with its legs submerged: this creature is represented and described in the *Hortus sanitatis*, "De piscibus," Chap. 54.

*Tricadeba*. The name is almost invisible on the Weimar globe; it is listed without description in the *Luculentissima* f. 53r; and does not appear on Waldseemüller's map. See Ptolemy 7.1 who gives has *Tricadiba*; the island is usually identified with Queilloa (i.e., Quiloa), but if this is correct the island is some distance from its true location.

*Orneon*. The island is west of Taprobana; the name is faded on the Weimar globe; Ptolemy 7.4 gives *Orneos*.

*Taprobana*. This is modern Sri Lanka; Schöner describes the island in his *Luculentissima* ff. 53r–53v (the latter erroneously marked 54), saying that in the past it was called Simondi but now Salica; in the past the men of the island covered themselves with veils, and they are good astrologers; on the island are found honey, rice, beryl, ginger, and the precious stone called hyacinth, as well as all metals, especially gold and silver; there are elephants and tigers and two summers and winters each year, and the leaves are always green. The island is also called Samathram; it is divided into four kingdoms and is 4000 Italian miles in circumference, and men from the island aided Alexander the

Great and also came to Rome and concluded a treaty with Pompey.<sup>282</sup> Much of this information comes from Ptolemy 7.4; the idea that Taprobana had two summers and two winters each year is mentioned by Isidore 14.6.12 and other authors; an embassy from Taprobana did in fact come to Rome during the reign of Claudius, although no treaty was concluded with Pompey: The embassy is described by Pliny 6.84–91.<sup>283</sup> Waldseemüller's legend describing the island paraphrases Ptolemy and adds that the inhabitants of the island are idolaters and conduct much trade, so that many commodities are available on the island; this legend is very similar to that on the Caverio map, transcribed and translated by Stevenson, *Marine World Chart*, pp. 114–115. It is interesting that Schöner chose not to include this information from Waldseemüller in his text on Taprobane in the *Luculentissima*. For more description of Taprobana see Hallberg, *L'Extrême Orient*, pp. 509–514.<sup>284</sup> It should be remarked that during the fifteenth and sixteenth centuries the cartography of the island now known as Sri Lanka was confused by the conception that there were two islands that in some way represented Sri Lanka: Taprobane, which comes from Ptolemy, and Seilan or Zeilan or Ceylon (see p. 96 on *Seyla*), which comes from Marco Polo; further, one of these two islands was sometimes identified with Sumatra.<sup>285</sup> The Portuguese captain Dom Lourenço de Almeida "rediscovered" Sri Lanka in 1506, and from that time forward Portuguese ships continued to visit the island and trade there.<sup>286</sup>

*Calibi m.* These mountains are on Taprobane; Ptolemy 7.4 gives *Calybi montes*.

*Asatius m.* This mountain is on Taprobane; Schöner seems to have been confused here: Ptolemy 7.4 calls the mountain *Malaea mons*, as does Waldseemüller, and mentions an Azanus or Asanus river that flows from those mountains, which Waldseemüller does show. So Schöner confused the name of the river with that of the mountain.

*Sinus gangeticus.* The Gulf of the Ganges River (i.e., the Bay of Bengal).

*Susuara.* The island and the name are barely visible on the Weimar globe. It is not mentioned in the *Luculentissima*; Waldseemüller gives *sussara*, and Ptolemy 7.4 has *Susuara*.

*Basachata.* Both the island and the name are absent from the Weimar globe. Schöner in the *Luculentissima* f. 53r says that there are many shells here and that the inhabitants are nude and are called Gymnatas. See Ptolemy 7.2, who calls it *Bazacata Insula*.<sup>287</sup>

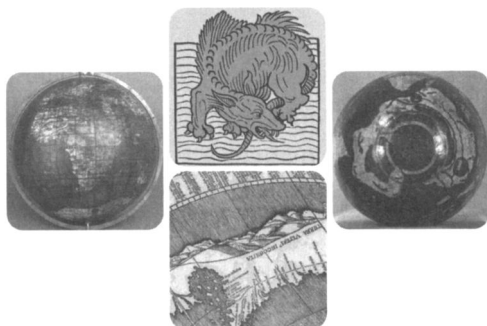
*Bone fortune.* [Good Fortune]. The islands' name is faded on the Weimar globe; Schöner lists them in the *Luculentissima* f. 53r without describing them; see Ptolemy 7.2 who gives *Bonae Fortunae*, but offers no explanation of how the islands got this name.<sup>288</sup> Maurice Portman has suggested that the cartographer Agathodaemon, who lived in Alexandria and designed some of the maps for

Ptolemy's *Geography*, may have called the islands Agathou Daimonos (Bonae Fortunae) after his own name,<sup>289</sup> but this seems unlikely; because there is another feature in Ptolemy 4.5, namely a branch of the Nile near Alexandria, which is called Agathos Daimon, and it was common in antiquity to name geographic features after gods—and Agathos Daimon means “good god.” It has also been suggested that the name of the island is a euphemism because in reality it was an island of horror: see *Paulys Real-Encyclopädie der classischen Altertumswissenschaft*, Vol. 1, Col. 763, s.v. “Agathou daimonos nesos.”<sup>290</sup>

[ship] The ships are slightly different on the two globes: on the Frankfurt globe it has something at the top of its mast, but not on the Weimar globe.

*Sinus magnus Sinarum*. The “Great Bay of the Chinese.” The words are barely legible on the Weimar globe.<sup>291</sup>

*Perimuliaus sinus*. The words are barely legible on the Weimar globe; Ptolemy 7.2 has *Perimulicus Sinus*.



# SOUTHERN INDIAN OCEAN

I will list the toponyms and legends here from west to east; many of them are very faded on the Weimar globe. Many of the legends on Schöner's globe and also his descriptions in his *Luculentissima* of the features in this area are copied almost verbatim from legends on Waldseemüller's map.

*Zannibar sunt idolatre.* [Zanzibar; the people are idolaters.] The legend is faded on the Weimar globe. Schöner describes the island in his *Luculentissima* f. 54v: It is 2000 Italian miles in circumference; the inhabitants are like giants, each as strong as four European men; they go nude, are black, have long ears and huge mouths and hands four times as big as ours; there are forests of sandalwood; they have a king and their own language and are idolaters; all types of spices abound and there are many elephants.<sup>292</sup> Waldseemüller's legend on the island contains some of the same material; much of the information in Schöner's legend, but not all of it, comes from Marco Polo 3.34.<sup>293</sup>

*Circobena.* Schöner mentions the island in the *Luculentissima* f. 54v but provides no description of it; the island appears on Waldseemüller's map but not on the Cantino or Caverio maps. The Lenox Globe of c. 1510 names the island *Cirtena*.<sup>294</sup> I have not found the source of this island; W.A.R. Richardson suggests to me that it may be a doublet of Zanzibar.

*Madagascar insula non habent regem sunt Sarraceni & Mahumenste.* [The island of Madagascar; they have no king and are Saracens and Muslims.] In his *Luculentissima* f. 54v Schöner gives more details about the island: it is the largest in the Indian Ocean, and the richest in the world; it is 4000 Italian miles in circumference; the inhabitants are Saracens and Muslims; they have no king but do have forests of sandalwood, all types of spices, and elephants, lions, lynxes, leopards, deer, fallow deer, and many different species of birds.<sup>295</sup> Schöner's legend on the globe is very similar to Waldseemüller's. Many of these details, but not all of them, come from Marco Polo 3.33.<sup>296</sup> It is important to note that Madagascar is represented twice on Schöner's globe: once here under the name *Madagascar*, and again closer to Africa (and closer to its true position) under the name *S. Laurentii*, on which see p. 80. The first representation derives from Marco Polo; the second from early sixteenth-century exploration.

*Sandalorum silve.* [Forests of sandalwood.] On Madagascar.

[sea monster northeast of Madagascar] Waldseemüller has a legend in this same area which no doubt inspired Schöner to locate this image here. Waldseemüller says that "Here is born the shellfish which is called the murex, which when cut with iron emits red tears from which purple dye is made which they call ostium [sic]."<sup>297</sup> The *Hortus sanitatis*, "De piscibus" Chap. 58 is a possible source of Waldseemüller's legend, but this was certainly the source of Schöner's illustration: His image of the murex is an exact copy of that in the *Hortus sanitatis* (see Figs. 27 and 28). Curiously the c. 1497 Strassburg Latin edition of the *Hortus* contains no explanation of the strange stick that pierces the mouth of the murex in the illustration (which stick is also depicted by Schöner), but the abridged c. 1527 English translation of the work does: "Murir is a fische in an harde shell wherein she can nat hyde all her obdy [sic] because of a let that she hathe on her mouthe."<sup>298</sup> With regard to the location of the murex near Madagascar, it should be noted that Arnold Ritter von Harff in his account of his voyages in 1496–99 explicitly locates the murex in this area, and it seems that Waldseemüller and von Harff were using the same source here.<sup>299</sup> Another source that must be mentioned here is Ptolemy, for Ptolemy 7.2 says that near the island of Bazakata, which he places in this part of the Indian Ocean, "some say there is found in abundance the murex".<sup>300</sup> Thus, the idea that murex was found here derives ultimately from Ptolemy, although there is no legend relating to the murex in this area on any Ptolemaic map that I have seen.

*Fileis.* The name of this island is invisible on the Weimar globe. The name is not in the *Luculentissima*; Waldseemüller gives *philetus*, and Ptolemy 7.4 *Philicus*.

*Iona ibi bombex & porcellana.* [Iona; there are silk and shells (or porcelain).] In his

*Luculentissima* f. 54v Schöner gives *Ioanna insula* and says that the island has cloth made of silk, shells (or porcelain), or silk,<sup>301</sup> and Waldseemüller's legend is very similar to this text. On the Cantino map the island is *ilha ganaor* and has benzoin in addition to silk and porcelain<sup>302</sup>; on the Caverio map the island is called *Iana* and the legend is similar to that on the Cantino map. The island is probably a doublet of Java.

*Dimabar*. The name is barely visible on the Weimar globe. The island is not in the *Luculentissima*; the Cantino map, which is the earliest map on which this island and the two following islands appear, has *diba margabim*; the Caverio map gives *Dina Margabin*; Ruysch 1507 gives *Margasyn*;<sup>303</sup> and Waldseemüller gives *Dimobargabim*. The names of this island and the two following seem to record an Arab discovery of Réunion, Mauritius, and Rodrigues. The *dina* element seems to be a miscopying of *diua*, from the Sanskrit *dvipa* (island). It has been suggested that *margabim* in the name of this island derives from the Arabic *maghreb*, meaning "west," and that the island represents Réunion; that *morare* in the name of the second derives from *mashriq*, meaning "east," and that the island is Rodrigues; and that *arobi* in the name of the third derives from *harab*, meaning "abandoned," and that that island is Mauritius.<sup>304</sup>

*Dinamorare*. The name is faded on the Weimar globe, and clearest on the Library of Congress gores (see Fig. 3). In his *Luculentissima* f. 54v Schöner gives *Dinamorarae insula*, but unfortunately offers no description of the island. The Cantino map has *dinamorare*, and Caverio and Waldseemüller give *Dinamorare*. See *Dimabar* just earlier.

*Dinaaroby*. The name of this island is barely visible on the Weimar globe. The island is not in the *Luculentissima*; the Cantino map has *dina aRobi*, the Caverio map gives *dinnaroby*, and Waldseemüller *Dinaroby*. See *Dimabar* just above.

*Capricorni Tropicus*. The Tropic of Capricorn.

*Oceanus Indicus*. The words are invisible on the Weimar globe, further evidence of the fading that affected much of the surface of that globe.

[ship southeast of Taprobane] Only the very top of the ship is visible on the Weimar globe; the lower part of the ship is completely invisible, and dark, clear lines indicating waves cover the area where the ship should be. This is clear evidence that the sea in this area has been entirely redrawn.

*Irena*. The island is southwest of Taprobana; it is not mentioned in the *Luculentissima*; from Ptolemy 7.4.

*Bassa*. The name is invisible on the Weimar globe; the island is not mentioned in the *Luculentissima*; from Ptolemy 7.4.

*Moniole ibi lapis herculeus*. [The Moniole islands, there is the stone of Hercules.] The legend is faded on the Weimar globe. The stone of Hercules is the magnet, and the source of this legend is Ptolemy 7.2, who mentions ten magnetic islands,

the Maniolae, which are inhabited by man eaters and which will draw any ship with nails to its destruction. The text on the islands in the *Luculentissima* is essentially a paraphrase of Ptolemy.<sup>305</sup>

[ship] This ship directly south of *Coilu regnum* is the furthest south on the globe, quite close to the southern continent. The ship is different on the two globes: On the Weimar globe the prow of the ship (on the right) is missing in comparison with the Frankfurt globe, and the shape of the crow's nests are slightly different. The ship has been redrawn on the Weimar globe.

*Calezuam*. The name is almost illegible on the Weimar globe. This island is not in Ptolemy. Waldseemüller gives *Callenzuam*, and Caverio gives *Callenzuan*. The fullest information we have about the island is on the Cantino map, where the island's name is *Caleirciram* and the legend says that the island has many cloves.<sup>306</sup>

*Sinde*. The name is barely visible on the Weimar globe; Waldseemüller does not name the islands. In the *Luculentissima* f. 53r Schöner says that there are three of the islands and they are inhabited by man-eaters; see Ptolemy 7.2.<sup>307</sup>

*Daruse morantur in montibus*. [The Daruse Islands... they live in the mountains.] This enigmatic legend is barely visible on the Weimar globe. The text in the *Luculentissima* f. 53r clarifies the legend: *Darusae insulae quinque In quibus Antropophagi ducentes moram in montibus* [The five Daruse Islands in which man-eaters wait in the mountains]. Waldseemüller's legend is similar to the text in the *Luculentissima*; Ptolemy 7.2 gives *Brussae* or *Barussae* and mentions the *Anthropophagi* there.<sup>308</sup>

[*Sabadite*.] Both the islands and the name are invisible on the Weimar globe; the name is damaged on the Frankfurt globe, and the Library of Congress gores do not include this area, but the name is in the *Luculentissima* f. 53r, where Schöner just mentions that there are three islands in this group and they are inhabited by cannibals. See Ptolemy 7.2.<sup>309</sup>

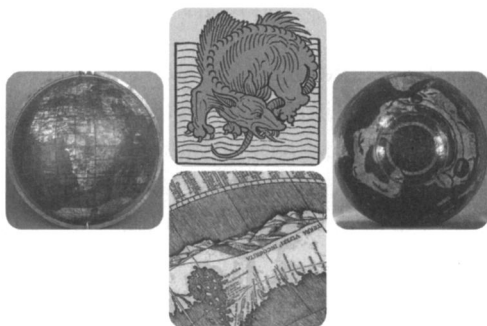
[sea monster southeast of *Sabadite*] This is a very curious monster that looks rather like a human doing the backstroke, but with a monstrous head and no arms. There is no sign whatsoever of this monster on the Weimar globe. There are sea monsters in the *Hortus sanitatis* that are depicted as having two legs, for example the *locusta marina* ("De piscibus" Chap. 52) and the *testeum* (Chap. 94), but there is no great likeness between these monsters and the one on Schöner's globe. The only creature I have found that is similar to that Schöner portrays here is one on the anonymous globe gores of c. 1523–24 (Stuttgart, Landesbibliothek, Nicolai Collection 79, 36) which have been attributed to Schöner.<sup>310</sup> On those gores in the southern ocean south of West Africa, at about 47°S, 25°E according to the gores' coordinates, there is a monster very similar indeed to the one on Schöner's 1515 globe, which is clearly some type of bird;



however, I have not been able to determine what sort of bird this might be; there is nothing similar in the *Hortus sanitatis*, for example.

*Ibadium*. The name of this island is invisible on the Weimar globe. Schöner in the *Luculentissima* f. 53r says that the name means the Island of Barley, and that it is very fertile and produces much gold.<sup>311</sup> Waldseemüller has a similar legend, and the information derives from Ptolemy 7.2, who calls it *Iabadii insula*.<sup>312</sup>

*Satiri caudes habent*. [Satyrs have tails.] That is, the islands are supposed to be inhabited by satyrs. The islands themselves are invisible on the Weimar globe, and the legend very faded, whereas the surrounding lines indicating waves are dark and clear. In his *Luculentissima* f. 53r offers little more information about the islands; they come from Ptolemy 7.2.<sup>313</sup>



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# EASTERN INDIAN OCEAN

**I**n the western Indian Ocean Ptolemy was the most important source (directly or indirectly) of the information on Schöner's globe, but that role is played by Marco Polo in the eastern Indian Ocean. I anachronistically distinguish between the Eastern Indian Ocean and the Pacific, and include in the latter *Zipangri* (Japan) and objects in the same longitudes. In the Eastern Indian Ocean I will comment on toponyms and features from north to south.

*Orientalis ocean[us]*. The Eastern Ocean. This legend is just off the northeastern coast of Asia; on the Weimar globe it is *Orientalis ocenus* [sic], and *ocenus* has clearly been rewritten by a later hand.

*Cametoria*. Neither the island itself nor the name appears on the Weimar globe; they have been swallowed into the coast during the inept restoration of this part of the globe described earlier in the commentary on *Quiritaria provin[cia]*. The same island appears on Waldseemüller's map, and the *.y. caramearnetoria* on the Caverio map (see Stevenson, *Marine World Chart*, p. 115) is no doubt the same island, but Schöner makes no mention of it in his *Luculentissima*, and I have not found the source of this island.

*Sama*. Neither the island itself nor the name appears on the Weimar globe, but not because the coastline was moved during restoration; in this case, it seems

that the island had faded to invisibility and was covered with waves during the "restoration." Waldseemüller has the same island; it does not appear in Schöner's *Luculentissima*. The island probably corresponds to the *ilha sena esta o norte em ii pulgadas* of the Cantino chart and the *.y. sena* of the Caverio chart.

*Ihamada*. The island itself appears on the Weimar globe, but its name is absent; Schöner does not mention or discuss it in his *Luculentissima*. The island appears on Waldseemüller's 1507 map with the same name. The name is the result of a confused abbreviation: On the Caverio map there is an island named *.y. baxos ihamada fuluadora* (i.e., "shoal named Fuluadora") in this same area (see Stevenson, *Marine World Chart*, p. 115); and in Waldseemüller's 1507 map the word *ihamada*, probably an error for the Portuguese *chamada* (meaning "named"), has become the name of the island. Waldseemüller fixes this error on his *Carta marina* of 1516, where the island is called *.y. baixos ihamada fulicandora*. On the Cantino map the island is named *fulucandora* and the brief legend is similar to that on the Caverio map<sup>314</sup>; the name of the island probably represents "Pulau Condor," so compare *Candur* later. W.A.R. Richardson suggests that this island corresponds to the modern Con Son Islands of Vietnam.<sup>315</sup>

*Cingirma christiani*. In his *Luculentissima* f. 55r Schöner says *Cingirma insula valde diues: & sunt christiani* [The island of Cingirma, which is very rich, the inhabitants are Christians], echoing Waldseemüller's legend on the island. The legend on the Caverio map gives more information; it reads *Chingirina esta ilha he multo rica et sum xrãos e daqui vam as prodelanas a mallaqua et aquí a benioim et linalor et almizquer* (i.e., "This island is very rich, and they are Christians; thence comes the porcelain to Mallacca. Here there is benzoin, aloes, and musk.")<sup>316</sup> The identity of the island and the cartographers' source of information about it are unclear.

*Despusa*. The name of the island is absent on the Weimar globe; the island appears on Waldseemüller's map but is not mentioned in Schöner's *Luculentissima*. On the Cantino map the island is *ilha de pussa*, and the brief legend merely gives its position<sup>317</sup>; on the Caverio map it is *.y. de spusa* (see Stevenson, *Marine World Chart*, p. 115), but there is no description of the island.

*Adena*. Schöner lists the island without description on f. 55r of his *Luculentissima*; the island appears on Waldseemüller's 1507 map, and as *.y. adena* on the Caverio map.

*Equinoctialis*. The equator. On the Weimar globe the letters have clearly been rewritten over the original faded letters, and not with perfect accuracy.

[ship near the coast of Asia] The ships on the two globes are very similar, but not identical: There is more rigging or sails (?) on the ship on the Frankfurt globe, and the ship on the Weimar globe has some hatching on the left-hand part of the hull, which is not present on the Frankfurt ship.

[two-tailed siren northeast of *Iaua maior*, i.e., Java] The sirens are very different on the two globes: on the Weimar globe (at the left of Fig. 2) the lower half of the siren's body seems to be underwater, whereas on the Frankfurt globe and the Library of Congress gores (see Fig. 4) the siren's two tails are very prominent; also, the breasts and face of the Weimar / Dresden siren are misshapen, and the hairstyles of the two sirens are completely different. The Weimar siren has clearly been redrawn. The siren on the Frankfurt globe is quite similar to the siren depicted in the *Hortus sanitatis*, "De piscibus," Chap. 83, but not identical: The siren in the *Hortus* has long flowing hair, whereas the Frankfurt and Library of Congress sirens have their hair in buns. In addition, each of the *Hortus* siren's two tails is bifurcated at the end, but this is not the case with the Frankfurt or Library of Congress siren. Thus, it is not clear that Schöner used the *Hortus sanitatis* as his iconographical source here. The siren on Schöner's globes corresponds with the legend about the sighting of a siren in the same area on Waldseemüller's 1507 map: *Hic videtur syrena horrible monstrum marinum*; the Green Globe has a legend identical to Waldseemüller's in the same location. There are other maps that locate sirens in the Indian Ocean: There is a two-tailed siren on the easternmost panel of the Catalan Atlas, (1375); a lost late fourteenth-century Genoese world map had a legend similar to that on the Catalan Atlas which discussed the three different types of sirens in the Indian Ocean; and the Catalan-Estense map (c. 1460) illustrates a single-tailed siren in the Indian Ocean, with a descriptive legend.<sup>318</sup> Martin Behaim's globe of 1492 also has a legend about sirens in the Indian Ocean, but no representation of them: see Ravenstein, *Martin Behaim*, p. 86.

*Iaua maior*. Java. The outline of the island on the Weimar globe has been redrawn, but quite accurately. Schöner describes the island briefly in his *Luculentissima* f. 55r, saying that the island has a coast of 3000 Italian miles; its king is tributary to no one; the people are idolaters, and there are forests of nutmeg, pepper, spikenard, galingale, and clove trees.<sup>319</sup> This information comes from the legends on the island on Waldseemüller's map, and in turn from Marco Polo 3.6. See further Silvestri, *De insulis*, pp. 284–289 in the edition by Montedoca (see note 269, Silvestri relies on Polo); Hallberg, *L'Extrême Orient*, pp. 274–280, where he discusses discusses both Java Maior and Minor; Pelliot, *Notes on Marco Polo*, Vol. 2, pp. 755–757; and Varthema, *The Travels of Ludovico di Varthema*, pp. 251–258. On the history of the name "Java" see Henry Yule, *Hobson-Jobson* (London: J. Murray, 1903), pp. 454–456; and Gerini, *Researches on Ptolemy's Geography*, pp. 632–642.

*nuces muscata*. [nutmeg.] On *Iaua maior*. Faded on the Weimar globe.

*pipe*. [pepper.] On *Iaua maior*.

*variorum spetiorum*. [Of various spices.] On *Iaua maior*.

*dives sunt idolatre.* [They are rich idolaters.] On *Iaua maior*.

*Angama idolatre sunt capita canina habent.* [Angama; they are idolaters; they have dogs' heads.] This whole island is essentially invisible on the Weimar globe (see Figs. 29 and 30), although there are some faint traces of the legend; this is strong evidence that much of the surface of this globe was once very faded indeed, and thus that much of it has been redrawn. Schöner briefly describes the island in his *Luculentissima* f. 55r, saying that it has all spices in abundance, that the inhabitants have their heads deformed like those of dogs and live like beasts, and they are idolaters.<sup>320</sup> This text in the *Luculentissima* echoes Waldseemüller's legend on the island. On Angama see Marco Polo 3.13; Hallberg, *L'Extrême Orient*, p. 28, s.v. "Angamanain"; and Pelliot, *Notes on Marco Polo*, Vol. 1, p. 43—these are the Andaman Islands. On the dog-headed men or *cynocephali* here see Suárez, *Early Mapping of Southeast Asia*, p. 117; David White, *Myths of the Dog-Man* (Chicago: University of Chicago Press, 1991); and Lecou-teux, *Les monstres*, Vol. 2, pp. 20–28.<sup>321</sup> Pierre Desceliers on his manuscript world map of 1550 (London, British Library, Add. MS 24065)<sup>322</sup> has an illustration of the cynocephali cannibals of Angama (i.e., the Andaman Islands), and this is the only illustration I know of that shows the inhabitants as both cynocephali and cannibals.

[two nameless islands, a small one east of Angama, and a larger one southeast of Angama] These two islands do not appear at all on the Weimar globe, more strong evidence that the surface of this globe was once very faded and that the wave pattern has been repainted.

*Sandur.* The island is not mentioned in the *Luculentissima*; it comes from Marco Polo 3.7, who calls it Sondur; see Hallberg, *L'Extrême Orient*, p. 450, s.v. "Sandur," and Silvestri, *De insulis* pp. 500–501 (in the edition by Montesdeoca).

*Candur.* The island is not mentioned in the *Luculentissima*; it comes from Marco Polo 3.7, who calls it Condur; see Hallberg, *L'Extrême Orient*, p. 162 s.v. "Condur"; Silvestri, *De insulis*, pp. 146–147 (in the edition by Montesdeoca); and Pelliot, *Notes on Marco Polo*, Vol. 1, pp. 404–406. Richardson, *Was Australia Charted Before 1600?*, p. 82, identifies the island as one of the Con Son Islands in Vietnam.

*Necura idolatre bestialiter vivunt.* [Necura; the idolaters live like beasts.] Schöner expands on this description in the *Luculentissima* f. 55r, saying that the island's inhabitants have no king, but have large forests of red sandalwood and various spices; they are idolaters, live like beasts and go nude.<sup>323</sup> This information comes from Waldseemüller, who in turn used Marco Polo 3.12, who calls the island Necuveran. See Hallberg, *L'Extrême Orient*, pp. 368–370, s.v. "Necouran"; these are the Nicobar Islands.

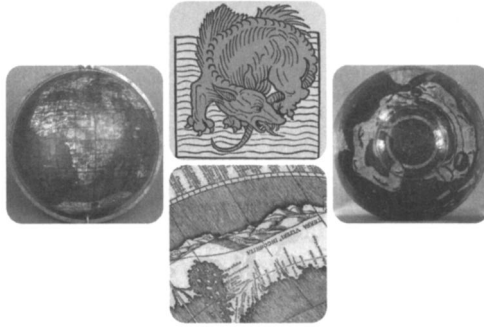
*Peutan idoladre sunt.* [Peutan; they are idolaters.] Schöner in his *Luculentissima* f. 55r says that the island is very woody and has forests of trees that smell strong

and are useful, and there are also many spices; the people are idolaters; there are forests of sandalwood; and near the island they fish for pearls.<sup>324</sup> Waldseemüller supplies much of this information in his legends on the island; see Marco Polo 3.8, and Hallberg, *L'Extrême Orient*, pp. 411–413, s.v. "Pontain." This is Bintang Island.

[large fish swimming east] The lower part of the fish is missing on the Weimar globe, probably the result of its having been redrawn.

*Seyla idolatre sunt ambulans nudi, nullum habent bladum Riso excepto.* [Seilan or Ceylon, they are idolaters and go about naked; they have no grain except rice.] Schöner's text in his *Luculentissima* f. 54r adds a few details to what he says in this legend, specifically that the island is one of the largest and best in the world, with a circumference of 2040 miles; the king is extremely rich and pays tribute to no one; and they have precious stones.<sup>325</sup> This text is taken almost verbatim from Waldseemüller's legend on the island, who in turn gathered his information about the island from Marco Polo 3.14. The island is a doublet of Taprobana; see p. 84 on *Taprobana*. As Waldseemüller and Schöner mention more trade goods in their texts on *Taprobana*, and as Waldseemüller (following Caverio) refers to trade in his legend on that island, it seems likely that they identified *Taprobana*, rather than *Seyla*, as the island "rediscovered" by the Portuguese in the early sixteenth century. For more on *Seyla* / Ceylon see Hallberg, *L'Extrême Orient*, pp. 131–134, s.v. "Ceylan"; and Silvestri, *De insulis*, pp. 530–533 in the edition by Montesdeoca (see note 269).

*Iava minor in ea sunt octo regna & sunt idolatre.* [Java the Lesser; in it there are eight kingdoms and they are idolaters.] Schöner adds just a few details in his *Luculentissima* f. 55r: the circumference of the island is 2000 miles; the Pole Star cannot be seen from the island; the island has eight kingdoms and its own language; the people are idolaters and there is an abundance of all spices.<sup>326</sup> Again, this information is all taken from Waldseemüller's legends on the island. See Marco Polo 3.9; Hallberg, *L'Extrême Orient*, pp. 274–280; and Pelliot, *Notes on Marco Polo*, Vol. 2, pp. 757–758.<sup>327</sup> *Iava minor* is to be identified with Sumatra.



## PACIFIC OCEAN

Many of the toponyms in this area of the Weimar globe are quite faded, and there are two sea monsters that appear on the Frankfurt globe, but are completely absent on the Weimar globe. These two cases provide strong evidence of the redrawing of these portions of the latter globe. Geographically Schöner follows Waldseemüller closely here, but the sea monsters and ships are Schöner's own additions. I will comment on toponyms and features from north to south.

[fish directly north of *Zipangri*, i.e., Japan] This fish, which is visible on the Frankfurt globe in Fig. 6, and partly visible on the Library of Congress gores in Fig. 4, is completely absent from the Weimar globe (see Fig. 2); the fish is similar to, but not identical with, two of the fish in the Northern Atlantic on Schöner's globe, and does not seem to have been modeled after any of the fish in the *Hortus sanitatis*. There is no legend about a sea monster in this part of Waldseemüller's map.

[unnamed island group just southwest of the fish] There is a very similar unnamed island group on Waldseemüller's 1507 map. The group seems to have been redrawn on the Weimar globe.

*Zipangri*. This is Japan. The toponyms and legends on the island are very faded on the Weimar globe, and the outlines of the island and the mountain ranges and the rivers, which are in dark, fresh ink, have clearly been redrawn. Schöner describes the island in his *Luculentissima* f. 55r, saying that it is 1500 miles east of mainland Asia, and is large, and the king pays tribute to nobody; the people are idolaters, there is much gold, but it is not exported; the island is very rich and they have many gemstones and also many spices, including forests of shittah trees (sandalwood?), spikenard, ginger, clove trees, cinnamon, nutmeg, and pepper.<sup>328</sup> Schöner copied much of this information from two legends on the island on Waldseemüller's map; much of this information comes in turn from Marco Polo 3.2 on Chipangu, who however says nothing about spices on the island. Hallberg's account of the island in *L'Extrême Orient*, pp. 497–498, s.v. "Sypangu" is surprisingly brief. Note that on Waldseemüller's map *Zipangri* is the name of a city on the island, not of the whole island, as it is on Schöner's globe. Japan's first appearance on a European map is on Albertin de Virga's world map of c. 1411–1415, where there is a large island in the southeast labeled *Caparu sive Java magna*, so that the cartographer identifies two islands that are quite distinct in Marco Polo<sup>329</sup>; the next appearance of Japan is on Fra Mauro's *mapamundi* of c. 1450, where it is labeled *Ixola de cimpagu*.<sup>330</sup>

*muscate*. Nutmeg. On *Zipangri*. The word is damaged on the Frankfurt globe; on Behaim's *Cipango* in the northwest there is a *moscat nuswalt* [nutmeg forest]—see Ravenstein, *Martin Behaim*, p. 89. Waldseemüller gives *silva nucum muscatum* [forests of nutmeg].

*piper*. Pepper. On *Zipangri*. On Behaim's *Cipango*, in the northeast there is a *pfeffer walt* [pepper forest]—see Ravenstein, *Martin Behaim*, p. 89. Waldseemüller gives *piper* in the same location.

*Hic auri copia*. [Here there is much gold.] On *Zipangri*. Behaim and Waldseemüller also indicate that there is gold on the island.

*Tropicus Cancri*. The words are barely visible on the Weimar globe.

[ship southwest of *Zipangri*] There are large differences between the ships on the two globes (see Figs. 31 and 32): the one on the Weimar globe is simpler and smaller, with vertical hatching on the hull, and the hull sits up out of the water; there is no rigging, and the waves are undisturbed. On the Frankfurt globe the ship is larger, the mast is taller and has a crow's nest, there are horizontal lines around the bottom of the mast, there is a lot of rigging, there is a person on the ship, the ship is anchored, the hull has lines that follow its contours, the ship's hull is down low in the water, and the ship is making a wake in the water. The ship on the Weimar globe, which is drawn with fresh black lines, has clearly been redrawn. Furthermore, the wave patterns around the two ships



are different, and on the Weimar globe there is an island west of the ship that does not appear on the Frankfurt globe: The “restorer” of the Weimar globe mistook a curved part of the ship’s wake for part of the outline of an island, and created an island where there was none originally.

[large unnamed island south of western *Zipangri*] There is a similar unnamed island on Waldseemüller’s map, and it seems at least possible that this island was originally intended to represent the mythical island of Chryse, the Island of Gold,<sup>331</sup> as Behaim places this island (which he calls *Crisis*) west southwest of Cipango.

*Gradus Longitudinis*. These words are invisible on the Weimar globe, and the wave pattern in this area has been redrawn on that globe.

[sea monster south of *Zipangri*] This monster does not appear at all on the Weimar globe, nor do the waves she has generated on the Frankfurt globe, and it is clear that this whole area has been redrawn (see Figs. 31 and 32, and also 2, 4, and 6). The monster has the appearance of a siren, but is in fact a dolphin, as is demonstrated by the identity between the image on Schöner’s globe and the upper of the two creatures illustrating the *Hortus sanitatis*, “De piscibus,” Chap. 27 on dolphins (see Fig. 33). Thus Schöner was again using that book as an iconographical source for his sea monsters here. His copying of the image in the *Hortus sanitatis* extends to both the position of the monster’s hand, and to the placing of the creature’s eyes in its chest, a detail in the *Hortus sanitatis* illustration that evidently is an attempt to depict the creature’s eyes in its back, which is where the text says they are located (*Delphini oculos habent in dorso*).<sup>332</sup> There is no legend about dolphins or any other sea monster in this area on Waldseemüller’s map, but it is worth mentioning that there are two similar creatures (and in poses similar to those of the two in the *Hortus sanitatis* illustration) on Behaim’s globe just south of the Cape Verde islands. The *Hortus sanitatis* was first published in 1491, the year before Behaim made his globe. Also, a similar creature appears in this area (south of *Zipangri*) on Schöner’s 1520 globe.

*Oceanus orientalis*. The words are barely legible on the Weimar globe.

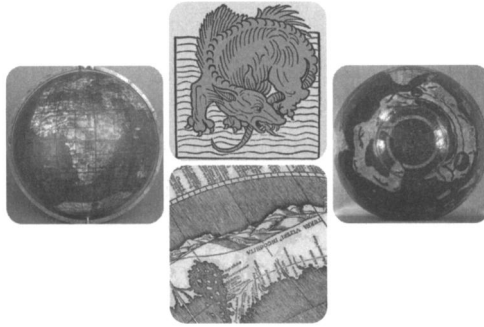
[sea monster near South America] This monster (see Figs. 34, 2, 4, and 6) is very similar indeed to the *draco marinus* or sea dragon of the *Hortus sanitatis*, “De piscibus,” Chap. 26, and not only are the general characteristics of the creatures similar, but their positions, arched around in semicircles, are as well (see Fig. 35).<sup>333</sup> Waldseemüller has no legend in this area about a sea monster. A similar monster appears in this area on Schöner’s 1520 globe.

*Zodiacus*. The word is faded on the Weimar globe.

*Capricorni circulus*. This legend appears twice; the words of the western occurrence are quite faded on the Weimar globe.

*Candin*. The name is barely legible on the Weimar globe, and the island's topographical details are very faded, but one outline of a mountain has clearly been restored on that globe. Schöner lists the island in his *Luculentissima* f. 55r without giving any details about it. This island first appears as *Candia* on the Genoese world map of 1457 (Florence, Biblioteca Nazionale Centrale, Portolano 1), where it is mentioned in a legend about a sea monster that was caught there (and which is depicted on the map) and exhibited in Venice.<sup>334</sup>

[sea monster southeast of *Candin*] There is no legend about a sea monster in this area on Waldseemüller's 1507 map. This representation of this monster (see Figs. 2, 6, and 36) is a copy of that of the *echinus marinus* or marine hedgehog in the *Hortus sanitatis*, "De piscibus," Chap. 44 (see Fig. 37).<sup>335</sup> Again Schöner was using the *Hortus sanitatis* as an iconographic source. On his 1520 globe Schöner places a birdlike creature in this same area.<sup>336</sup>



## SOUTHERN CONTINENT

The southern continent on Schöner's 1515 globe, which is labeled *BRASILIE REGIO*, is one of its most distinctive and curious features (see Fig. 38). It is one of the earliest depictions of a southern continent in a non-zonal map<sup>337</sup>; Schöner shows an incomplete ring of land around the South Pole, with an opening into the southern Indian and Pacific Oceans, quite different from the simpler, convex island-continent shown at the South Pole on other sixteenth-century maps. On Schöner's continent there are two huge lakes connected by an immense river that traverses about 90° of longitude, and a mountain chain running parallel to (and south of) the river that covers almost 180° of longitude. Both of the lakes are surrounded by mountains; one is labeled *Laco in montaras* (i.e., "Lake in Mountains"), and the other simply *palus* or "swamp." Waldseemüller shows no southern continent on his 1507 map, and the only contemporary maps or globes that have a similar "ring continent" are the anonymous Green Globe of c. 1515 (Paris, BnF, Rés. Ge A 335, see Fig. 39),<sup>338</sup> and Schöner's own 1520 globe (Nürnberg, Germanisches Nationalmuseum, WI 1). On ff. 61r–61v of his *Luculentissima*, Schöner describes the *Brasiliae regio* at some length: It is inhabited by people who wear the raw hides of lions, leopards, and beavers, and commonly live to be 140<sup>339</sup>; the land has mountainous areas, ample reserves of gold, silver, and copper, and

plants and animals that are unknown in Europe.<sup>340</sup> I will provide a transcription and translation of this whole passage in Appendix 3, but Schöner says nothing in it about the configuration of the continent or about the rivers in it. In an earlier article<sup>341</sup> I analyzed all of the maps and globes I have been able to find that depict a "southern ring continent," and show that the large river joining two lakes in mountains is very similar indeed to medieval depictions of a western branch of the Nile that derived from Pliny 5.9.51–54, Solinus 32.2, and Orosius 1.2: That branch was depicted as flowing west to east between two lakes sometimes surrounded by mountains, and may be seen, for example, in the Anglo-Saxon or Cottonian map (ca. 995), the "Henry of Mainz" or Sawley world map (1110), the so-called Isidore world map (eleventh century), the Ebstorf *mappamundi* (c. 1235), the Hereford *mappamundi* (c. 1290–1310), and many of the maps that illustrate manuscripts of Ranulf Higden's universal history (fourteenth century).<sup>342</sup> Moreover, Pomponius Mela 1.9.54 offers as one explanation for the inundations of the Nile, which occur in the dry summer rather than in the winter, the theory that the river has its origin in the southern hemisphere, in the land of the Antichthones, and that it flows from there in a hidden channel under the ocean, to emerge again in Ethiopia. Thus, the river floods in the summer in the northern hemisphere because of the winter rains in the southern hemisphere, at its source.<sup>343</sup> Thus, the river depicted in Schöner's southern continent, as surprising as it may seem, is a branch of the Nile.

On the Weimar globe substantial portions of the coastline of the southern continent are in dark, fresh ink and have obviously been redrawn, as have other parts of the continent. For example, the river joining the two lakes has been redrawn, and in some places one can see that the new, dark line does not quite coincide with the old, faded line.<sup>344</sup> Near the opening of the ring continent in the southern part of the Indian and Pacific Oceans there is a section where it is particularly clear that the oceanic wave patterns have been redrawn: By the western shore of the opening, specifically west of the parallel at 215°, the wave pattern is dark and harshly drawn, whereas east of that parallel it is faded and drawn in a softer style.

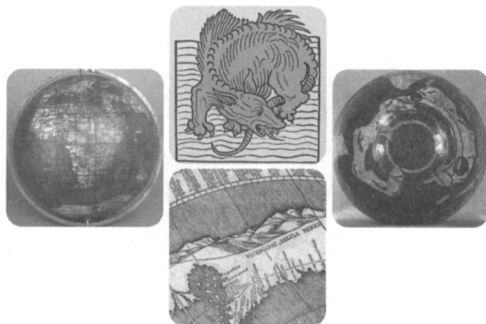
*BRASILIE REGIO.* Schöner's placement of this toponym in his southern continent rather than in South America is evidently due to his misinterpretation of the pamphlet *Copia der neuen Zeytung auß Presillg Landt* (i.e., *Tidings out of Brazil*), published c. 1514. On his 1520 globe he labels the southern continent *Brasilia Inferior*, whereas South America is *America vel Brasilia sive Papagalli Terra*. A couple of other cartographers followed Schöner in placing this toponym on their southern continents (even while the shape of those continent was very different from Schöner's): Oronce Fine in his 1531 map changed the toponym to *Brasielie Regio* and moved it well east in the southern continent,

and retained it in that position in his map of 1566; it also appears in this position on the Nancy Globe of c. 1535.<sup>345</sup>

*palus*. The word is illegible on the Weimar globe, and it is clear that the wave pattern in the lake, as well as most of the outlines of the mountains around the lake, have been redrawn.

*lacus in montaras*. A few other other maps have a lake surrounded by mountains as part of the Nile system: these maps include that illustrating the Saint-Sever manuscript (ca. 1050) of Beatus of Liébana's *Commentary on the Apocalypse* (see Fig. 40)<sup>346</sup>, and the Peutinger Map segments 7.4–5 (c. 1200, deriving from a Roman or Carolingian archetype), where the lake is labeled *Lacus Nusaptis o Lacus Nilodicus*.<sup>347</sup> It is intriguing that these two maps share several legends in addition to this similarity between their depictions of this lake on the Nile,<sup>348</sup> so it seems that an earlier text or map was used by both cartographers. A lake surrounded by mountains also appears in the western Nile in Andrea Bianco's atlas of 1436 (Venice, Biblioteca Nazionale Marciana, MS It. Z. 76, maps 6 and 9),<sup>349</sup> and three atlases by Giacomo Girolodi or Zirolodi: that in Milan, Biblioteca Ambrosiana, S.P. II 38, dated 1443, Map 3; that in Florence, Accademia Toscana di Scienze e Lettere "La Colombaria" MS 229 (II.II.I.17), dated 1446, map 3; and the atlas attributed to Girolodi which is in Chicago, Newberry Library, vault slipcase Ayer MS map 2, map 3.<sup>350</sup> There is also a lake surrounded by mountains in the western Nile in a chart of c. 1506 formerly in the Hauptconservatorium der Armee or Armeebibliothek, later the Wehrkreisbücherei, in Munich, and generally known as the "Kunstmann III" map; it vanished at the end of World War II, but we still have good illustrations of it.<sup>351</sup> Schöner's depiction of the lakes surrounded by mountains is much more similar to those in the Saint-Sever Beatus *mappamundi* and Peutinger map than to the stylized and perfectly circular depictions in Bianco and Girolodi. We should note further that the Peutinger map depicts a mountain chain running along the southern edge of Africa (i.e., parallel to and south of the Nile and its tributary the Girin/Nile, which on the Peutinger Map run largely west to east, very much as Schöner depicts a mountain chain running parallel to and south of the river in his ring continent). The Peutinger Map was in Vienna and then Augsburg in the early years of the sixteenth century; thus, it is quite possible that Schöner saw it at some point. The Saint-Sever Beatus *mappamundi* also depicts a long mountain chain stretching east and west across the southern edge of Africa, but it does not ascribe any significant east-west flow to the Nile, so the Peutinger map is more likely to have been Schöner's source for the lake encircled by mountains and stupendous mountain chain.

*Antarticus circulus*. The words are barely visible on the Weimar globe.

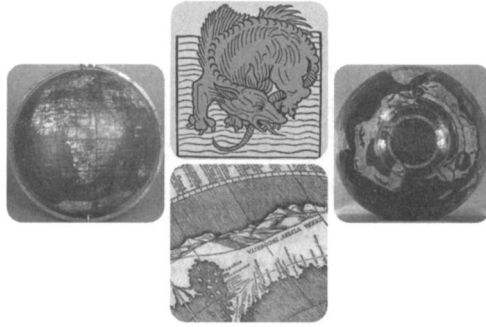


# APPENDIX 1

Transcription and Translation of Schöner's Description  
of *Parias insula* (North America) from his *Luculentissima* f. 60v

**P**arias insula Quae non est pars vel portio prioris: sed specialis magna portio terrae huius quartae partis mundi. Nudi sicuti superioris insulae homines incedunt: habent faties valde latas deformes: maximi & optimi natatores: currendo leues atque veloces existunt: ferro atque metallis aliis carent. Sunt Sagittarii optimi: Regem non habent: sed sua libertate viuunt: dormiunt in retiaculis magnis de bombice factis & in aere suspensis. nullam legem: nullum legitimum thori foedus in suis connubiis obseruant: eorum etenim vita omnino voluptuosa est. Sacrificia nulla faciunt: nec loca orationisue domos habent. Domus eorum ad instar campanarum constructae sunt. Eorum diuitiae sunt variorum colorum auium plumae. aut lapillorum diuersorum colorum: aurum: vniones: caeteraque similia: quae in Europa pro diuitiis habemus: nihil exitimant: imo penitus spernunt. Variis in eorum decessu exequiis vtuntur. Cum nonnulli suos in humo defunctos cum aqua sepeliunt: illis ad caput victualia ponentes: vesci eos talibus posse reputantes. Sunt & alii plures barbari mores illis: quae si omnia explanare velimus: instituto consonum non foret: cum talia aliis abunde dicentur. Carent omni farris granorumque genere & semine: Eorum pastus est radix quaedam arborea: quam in farinam satis bonam comminuunt. Vescuntur carnibus hominum: quos captos inimicos detinent. Populosa terra est multa gente: ac multis diuersis animalibus a nostris. Amena & frugifera: Syluis ac nemoribus maxime plena.

The island of Parias, which is not a part or portion of the preceding [America; i.e., South America], but is a large particular part of the fourth part of the world. The men go nude just as in the aforementioned island. Their faces are very wide and deformed; they are large and very good swimmers, and very light and fast runners. They lack iron and other metals. They are excellent archers; they have no king, but live at liberty; they sleep in large nets made of silk which are hung in the air. They have no law, nor any legitimate contract of the bed in their marriages, and so their life is entirely voluptuous. They perform no sacrifices nor do their houses have places for prayer. Their houses are built in the shape of bells. Their wealth consists in the colored feathers of birds, or little stones of various colors; gold and pearls and all other things which are highly valued in Europe they hold to be valueless or even scorn. They use various funerary rites. For some of them bury their dead in the ground with water, placing food by their heads in the belief that they can make use of these things. They have many other barbarous customs, but if we were to explain all of them it would not be consonant with our intentions, as others have described these matters in detail. They lack every type and seed of corn or grain; their food is a certain root of a tree that they grind into a satisfactory flour. The land is very populous, and has many animals that are different from ours; it is good and fertile, and is full of trees and forests.



## APPENDIX 2

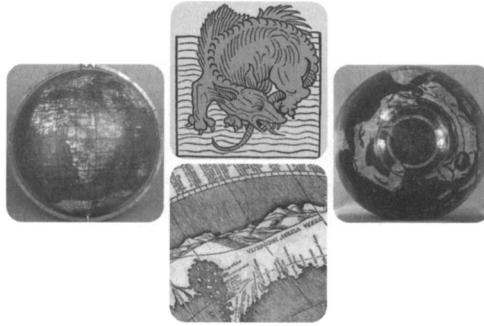
Transcription and Translation of Schöner's Description  
of America (South America) from his *Luculentissima* ff. 60r–60v

America siue Amerigen nouus mundus: & quarta orbis pars: dicta ab eius inuentore Americo Vesputio viro sagacis ingenii: qui eam reperit Anno domini .1497. In ea sunt homines brutales proceres ac eleganti staturae: viuunt ex piscibus: quos in mari piscantur. Nullos domorum pagos: nullaue tuguria habentes: praeterquam folia arborum grandia: sub quibus a solis feruore: sed non ab imbribus se protegunt. Ibi quam multa diuersarum specierum animalia. Adorant firmamentum & stellas. Et in quibusdam huius locis habent domicilia ad instar campanarum fabricata: Ibi rubei Psitaci: & etiam diuersi coloris ex eis ibi reperiuntur. Insula est mire magnitudinis: sed nondum prorsus cognita: in qua virilis ac foeminini etiam sexus homines non aliter quam eos mater peperit ire consueti sunt. Homines in ea etiam sunt Canibales dicti Antropophagi inimicos suos deuorantes.

America or Amerige is the New World and the fourth part of the earth, named for its discoverer Amerigo Vespucci, a perceptive man, who discovered it in the year 1497. In it there are brutish men who are tall and of elegant stature; they live on fish that they catch at sea. They have no villages of houses or huts, but only the large leaves of trees beneath which they protect themselves from the heat of the



sun, but not from the rain. There are many animals of different species. They worship the heavens and the stars. In some parts of this land they have dwellings made in the shape of bells. There are red parrots and even others of a different color are found there. This island is of great size but is not wholly known. In it both the women and the men go about exactly as their mother bore them. The men there are cannibals called anthropophagi who eat their enemies.



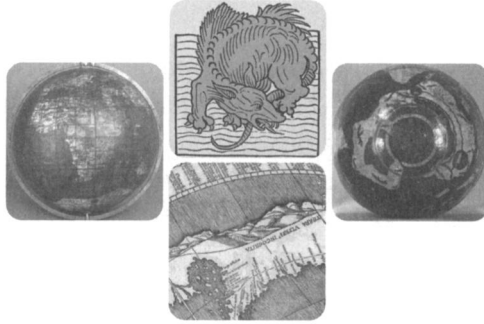
## APPENDIX 3

Transcription and Translation of Schöner's Description  
of *Brasiliae regio* (the Antarctic Ring Continent) from  
his *Luculentissima* ff. 61r–61v

**B**rasiliae regio A capite bonae spei (quod Itali Capo de bona speranza vocitant) parum distat. Circumnavigarunt itaque Portugalienses eam regionem: & comperierunt illum transitum fere conformem nostrae Europae (quam nos incolimus) & lateraliter infra orientem & occidentem situm. Ex altero insuper latere etiam terra visa est: & penes caput huius regionis circa miliaria .60. eo videlicet modo: ac si quis nauigaret orientem versus: & transitum siue strictum Gibel terrae aut Sibiliae nauigaret: & Barbariam: hoc est: Mauritantiam in Aphrica intueretur: vt ostendet Globus noster versus polum Antarcticum. Insuper modica est distantia ab hac Brasiliae regione ad Mallaquam: vbi Sanctus Thomas apostolus martyrio coronatur. Sunt in hac regione loca montosa valde: & in quibusdam hisce locis nix toto anno nunquam dissoluitur. His in locis animalia comperiuntur plurima & nobis incognita. Accolae etiam eorum locorum: pellibus animalium praeciosis: nedum paratis (quia praeparandi modum ignorant) se vestiunt. Vt sunt pelles Leonum: Leopardorum: Castorum &c. Abundat itaque plurimum haec regio: fructibus optimis: etiam nobis ignotis. Reperitur ibidem Cassia fistula ad brachii vnus magnitudinem. Similiter Mel & cera. Similiter vna gumma consimilis Therebentinae. Sunt ibidem mirandae variorumque generum volucres: pilatos habentes pedes. Vtuntur homines his in locis pro armadura arcubus sagittariis: ferro

& ferramentis similiter carent. Pro machinis siquidem ferratis: plura bona & prae-ciosa expendunt: Semen quoddam habent ad quantitatem Pisae: in capsulis etiam vt Pisae nascens: plurimum granorum: linguae mordicatum ac vstium vti Piper. Comperitur ibidem magna Auri: argenti: cuprique copia. Securibus vtuntur lapideis. In hac regione: vltro: populus est: que montana inhabitat: auro habundantes. Laminas quoque aureas (vti nostri armigeri ferreas Thoraces) in frontibus & pectoribus deferunt. Hanc regionem Serenissimus Portugaliae rex perquiri fecit. Et superuiunt homines eiusce loci communiter ad anos centum & quadraginta.

The Region of Brasil. From the Cape of Good Hope (which the Italians call the *Capo de bona speranza*) it is not distant. The Portuguese explored this region and found the strait it to be similar to [that] of our Europe (where we reside), and that it is situated laterally between east and west. From one side the land on the other side is visible, and the cape of this region is about 60 miles [distant], much as if one were sailing east through the Strait of Gibraltar or Seville and would see Barbary (that is, Mauritania) in Africa—as our globe shows near the South Pole. Further, the distance is not so great between the Region of Brazil and Malacca, where St. Thomas was crowned with martyrdom. In this region there are some very mountainous regions, in which the snow never melts throughout the year. In these areas many animals are found that are unknown to us. The inhabitants of these areas wear precious but untreated animal skins, for they do not know how to cure them, for example the skins of lions, leopards, beavers, and so on. This region also abounds in very good fruits, even some unknown to us. There is purging cassia as big as a man's arm, and also honey and wax, and a gum very similar to turpentine. There are also remarkable birds of many different kinds, which have furry feet. The men of these regions use bows and arrows as weapons; they lack both iron and iron tools, and trade many good and precious things for any iron device. They have a certain seed that is the size of a pea, which grows in pods like peas, but with more grains, and it is sharp and hot on the tongue like pepper. Large quantities of gold, silver, and copper are found there. They use stone axes. Also in this region there is a people who live in the mountains and who have much gold. They have golden armor (as our soldiers have iron breastplates) that they wear on their fronts and chests. His Majesty the King of Portugal caused this region to be explored. The people of this area commonly live to be 140 years old.



## APPENDIX 4

Transcription and Translation of Schöner's Description of the  
Anonymous Voyage from Lisbon to India c. 1508–1513 from his  
*Luculentissima* f. 39v

It bears repeating here that the many coastal African toponyms that Schöner lists in his description of the voyage are *not* places that the expedition stopped: the tracing of the voyage's course on his globe clearly shows that the ships did not touch land between *Cabo Roxo* in West Africa and *S. Laurentii* (Madagascar). It is not clear why Schöner chose to list these coastal African toponyms in his description of the voyage.

Nouae navigationis: et terrae ad austrum inuente: graduum latitudinis annotationis: circa annos domini .1508. & .1513. obseruatae. Hic apprime notantum venit: quod noua nauigatio a Lisibona Portugaliae ad Chalicutiam & Melacham Indiae iuxta obseruationes nouissimas inuenta: in hunc sequentem se habet modum. A Lisibona ciuitate Portugaliae que in eleuatione poli graduum .39. minu. .38. sita reperitur: nauigatur meridiem versus ad Cabo de Sant Vincentus: quod Algarbiarum Portugaliae finis est: quibus polus Arcticus .37. gra. & .15. minu. elevatur. Sequitur Septa ciuitas que antiquitus Exilissa vocata erat: sita in Mauritania Tinganica in gradibus eleuationis .36.0. Sequitur Azanior .33.0. Cabo de Gilo .30.0. Cabo Boxadi .27.0. Arginci .20.0. Rio de San Ioann .18.30. Conaga .15.20. CAPVD VIRIDE .14.40. Rio de Gambia .13.0. Cabo Roxo .11.40. Rio grande .12.0. Serra

Lyon .7.30. Cabo San. Anna .7.0. ibi flectitur terra orientem versus. Cabo de palmes .4.0. Asties pontes .4.30. CASTELLO DE MINA .5.0. Rio das Bolias .6.20. Rio de lago .7.40. Cabo formoso .5.20. Rio Real .5.0. Rio de Camaroes .4.0. ibi flectitur nauigatio ad meridiem. Rio de Gaban .0. aequator. Cabo de Lapogoncalites .1.40. Australes. Cabo primeuo .4.0. Aust. Magni Congo .7.0. Aust. Rio San Lorenzo .10.15. Aust. Angra das Aldas .16.20. Aust. CABO BONA SPERANZA .34.0. Aust: ibi fit conuersio litoris & terrae ad ortum: & aliquantulum ad Septentrionem. Abaia de la Goa .33.0. Aust. Cabo de Corremes .24.0. Aust. ZAFALA .20.0. Aust. Rio das Boas .16.0. Aust. MONZANBIQVI .15.0. Aust. QVILOA .9.0. Aust. Mombaza .3.20. Aust. MELINDE .3.0. Aust. Mogodoxo .4.0. Zazela .7.30. Cabo de Guardafuente .13.30. a Pthole. Notium promontorium dictum: & est terminus Aphricae: de quo ad Arabiam foelicem nauigatur. Cuius nauigationis loca insignia Arabiae foelicis & Indiae suis locis scribetur.

Notes on a recent voyage made around 1508 and 1513, and on land discovered in the south, with indications of latitudes. First we must note that the new voyage was from Lisbon in Portugal to Calicut and Malacca in India, and included new discoveries; the voyage proceeded as follows. From Lisbon in Portugal, which is located at latitude 39°38' they sailed south to Cape St. Vincent, which is the limit of the Portuguese Algarve, which is in latitude 37°15' N. Then they reached the city of Septa which in ancient times was called Exilissa; it is in Mautriania Tinganica at 36° N. Then they reached Azanior at 33° N, Cabo de Gilo at 30° N, Cabo Boxadi at 27° N, Arginci at 20° N, Rio de San Ioanus at 18°30', Conaga at 15°20' N, CAPE VERDE at 14°40' N, Rio de Gambia at 13° N, Cabo Roxo at 11°40' N, Rio grande 12° N, Serra Lyon at 7°30' N, Cabo San. Anna at 7° N, where the coast turns to the east. The Cabo de palmes at 4° N, Asties pontes at 4°30' N, the CASTELLO DE MINA at 5° N, Rio das Bolias at 6°20' N, Rio de lago at 7°40' N, Cabo formoso at 5°20' N, Rio Real at 5° N, Rio de Camaroes at 4°, where the voyage turned to the south. Then Rio de Gaban on the equator, Cabo de Lapogoncalites at 1°40' S, Cabo primeuo at 4° S, Magni Congo at 7° S, Rio San Lorenzo at 10°15' S, Angra das Aldas at 16°20', the CAPE OF GOOD HOPE at 34° S, where the coast and the land turn turn to the east and a bit to the north. Then Abaia de la Goa at 33° S, Cabo de Corremes at 24° S, ZAFALA at 20° S, Rio das Boas at 16° S, MOZAMBIQUE at 15° S, QUILOA at 9° S, Mombaza at 3°20' S, MELINDE at 3° N, Mogadishu at 4° N, Zazela at 7°30' N, and Cabo de Guardafuente at 13°30' N, which Ptolemy calls the Notius Promontorium and which is the end of Africa, from which they sailed to Arabia. I will describe the places they reached in Arabia and India in the sections on these regions.



## NOTES

- 1 On the Library of Congress's acquisition of Waldeemüller's 1507 map see John Hébert, "The Map that Named America: Martin Waldeemüller's 1507 World Map," *Coordinates*, Series B, No. 4 (August 2003), available at <http://purl.oclc.org/coordinates/coordinates.htm>
- 2 For a description of the Schöner Sammelband see John Hessler, "The Schöner Sammelband," in Arthur Dunkelman et al., *The Jay I. Kislak Collection at the Library of Congress: A Catalog of the Gift of the Jay I. Kislak Foundation to the Library of Congress* (Washington, D.C.: Library of Congress, 2007), pp. 99–108.
- 3 The fragments of the gores of Schöner's 1515 globe in the binding of the Schöner Sammelband are mentioned by Edward Heawood, "The Waldseemüller Facsimiles," *Geographical Journal* 23.6 (1904), pp. 760–770, esp. p. 761; Elizabeth Harris, "The Waldseemüller World Map: a Typographic Appraisal," *Imago Mundi* 37 (1985), pp. 30–53, esp. p. 30; Franz Wawrik, "The Johannes Schöner Collection of Cartographical Works in the Austrian National Library," in *Imago et Mensura Mundi, Atti del IX Congresso Internazionale di Storia della Cartografia* (Rome: Istituto della Enciclopedia Italiana, 1985), Vol. 1, pp. 297–301, esp. pp. 300–301; and Seymour I. Schwartz, *Putting 'America' on the Map: The Story of the Most Important Graphic Document in the History of the United States* (Amherst, NY: Prometheus Books, 2007), pp. 193–195.
- 4 For biographical information on Schöner see Johann Gabriel Doppelmayr, *Historische Nachricht von den nürnbergischen Mathematicis und Künstlern* (Nürnberg: P. C. Monath, 1730), pp. 45–50; Emil Reicke, "Aus dem Leben des Johann Schöner, ersten Professors für Mathematik und Geographie in Nürnberg," *Abhandlungen der Naturhistorischen Gesellschaft Nürnberg* 17.3 (1907), pp. 41–59; Hans Vollet, ed., *Weltbild und Kartographie im Hochstift Bamberg* (Kulmbach: Freunde der Plassenburg e.V., 1988), pp. 59–63; *Dictionary of Scientific Biography* (New York: Scribners, 1970–80), Vol. 12, pp. 199–200; Hans Gunther Klemm, *Die fränkische Mathematicus Johann Schöner (1477–1547) und seine Kirchhörenbacher Briefe an den Nürnberger Patrizier Willibald Pirckheimer* (Forchheim: Ehrenbürg-Gymnasium, 1992); and

- Monika Maruska, "Johannes Schöner—'Homo est nescio qualis': Leben und Werk eines fränkischen Wissenschafters an der Wende vom 15. zum 16. Jahrhundert," PhD dissertation, Universität Wien, 2008. For a bibliography of Schöner's works see Charles Henry Coote, *Johann Schöner, Professor of Mathematics at Nuremberg, a Reproduction of his Globe of 1523, Long Lost, his Dedicatory Letter to Reymer von Streytperck, and the 'De Moluccis' of Maximilianus Transylvanus* (London: H. Stevens, 1888), pp. 149–168; and Maruska, "Johannes Schöner—'Homo est nescio qualis'," pp. 119–131.
- 5 For discussion of Schöner's 1515 globes see Franz Ritter von Wieser, *Magalhães-Strasse und Austral-Continent. Auf den Globen des Johannes Schöner* (Innsbruck: Verlag der Wagner'schen Universitäts-Buchhandlung, 1881; Amsterdam: Meridian Pub. Co., 1967); Lucien Gallois, *Les géographes allemands de la Renaissance* (Paris: E. Leroux, 1890; Amsterdam: Meridian Pub. Co., 1963), pp. 70–97; Henry Harrisse, *The Discovery of North America* (London: H. Stevens, 1892; Amsterdam: N. Israel, 1961), pp. 484–489; K. Schottenloher, "Johann Schöner und seine Hausdruckerei," *Zentralblatt für Bibliothekswesen* 24 (1907), pp. 145–155; Edward L. Stevenson, *Terrestrial and Celestial Globes; Their History and Construction* (New Haven: Yale University Press, 1921), Vol. 1, pp. 82–88 and 107–110; and Ernst Vatter, "Der Globus des Johannes Schöner von 1515," *Frankfurter Geographische Hefte* 11 (1937), pp. 160–179.
  - 6 On the Frankfurt exemplar of Schöner's globe see Werner Kummer, "Liste alter Globen im Bundesland Hessen und aus einer Sammlung in Ingelheim in Rheinhessen," *Der Globusfreund* 31–32 (1983), pp. 15–68, esp. number 61, pp. 55–56; and Reinhard Glasemann, *Erde, Sonne, Mond & Sterne: Globen, Sonnenuhren und astronomische Instrumente im Historischen Museum Frankfurt am Main* (Frankfurt am Main: Verlag Waldemar Kramer, 1999), pp. 13–14.
  - 7 On the Weimar exemplar of Schöner's globe, which until 2007 was on a long-term loan to the Mathematisch-Physikalischer Salon in the Staatliche Kunstsammlungen Dresden, see Helmut Grötzsch, "Betrachtungen zu Erdgloben von Schöner und Mercator aus den Sammlungen des Staatl. Mathematisch-Physikalischen Salons im Dresdner Zwinger," *Der Globusfreund* 21–23 (1973), pp. 156–161 with Plate 8; and Wolfram Dolz, *Erd- und Himmelsgloben: Sammlungskatalog* (Dresden: Staatlicher Mathematisch-Physikalischer Salon, 1994), pp. 10–13.
  - 8 Waldseemüller's 1507 map has been published in facsimile in *Die älteste Karte mit dem Namen Amerika aus dem Jahre 1507 und die Carta marina aus dem Jahre 1516 des M. Waldseemüller (Ilacomilus)*, eds. Joseph Fischer and Franz Ritter von Wieser (Innsbruck: Wagner'schen Universitäts-Buchhandlung, 1903; Amsterdam: Theatrum orbis terrarum, 1968); there are two excellent high-resolution scans of the map available on the internet site of the Library of Congress. For an account of Waldseemüller and his works see Robert W. Karrow, *Mapmakers of the Sixteenth Century and Their Maps: Bio-Bibliographies of the Cartographers of Abraham Ortelius, 1570* (Chicago: Speculum Orbis Press, 1993), pp. 568–583, and Hans Wolff, *America: Early Maps of the New World* (Munich: Prestel, 1992), pp. 111–126; for discussion of his 1507 map, in addition to the introduction in Fischer and von Wieser's facsimile see, for example, Charles G. Herbermann, "The Waldseemüller Map of 1507," *Historical Records and Studies* 3.2 (1904), pp. 320–342; and Elizabeth Harris, "The Waldseemüller World Map: A Typographic Appraisal," *Imago Mundi* 37 (1985), pp. 30–53.
  - 9 See Franz Laubenberger, "The Naming of America," *Sixteenth Century Journal* 13.4 (1982), pp. 91–113; and Christine R. Johnson, "Renaissance German Cosmographers and the Naming of America," *Past & Present* 191 (2006), pp. 3–43. G. C. Hurbult, "The Origin of the Name America," *Bulletin of the American Geographical Society* 18 (1886), pp. 301–316, offers a good discussion of early uses of the name "America" for the New World following Waldseemüller's 1507 map; on this subject see also Fischer and von Wieser, *Die älteste Karte mit dem Namen Amerika*, pp. 36–41.
  - 10 For discussion of the southern continent on Schöner's 1515 globe see Armand Rainaud, *Le continent austral; hypothèses et découvertes* (Paris: A. Colin, 1893; Amsterdam: Meridian, 1965), pp. 248–256 and 294–297; Oswald Dreyer-Eimbcke, "Terra australis und der Schöner Globus," in *Auf den Spuren der Entdecker am südlichsten Ende der Welt* (Gotha: Perthes, 1996), pp. 24–27; and Chet Van Duzer, "The Cartography, Geography, and Hydrography of the Southern Ring Continent, 1515–1763," *Orbis Terrarum* 8 (2002), pp. 115–158, esp. pp. 115–126.
  - 11 On the depiction of an East-West passage south of South America before the discovery of the Strait of Magellan see Wieser, *Magalhães-Strasse und Austral-Continent*; Richard Hennig,

- "The Representation on Maps of the Magalhães Straits before Their Discovery," *Imago Mundi* 5 (1948), pp. 32–37; and James Enterline, "The Southern Continent and the False Strait of Magellan," *Imago Mundi* 26 (1972), pp. 48–58; Enterline's article is to be used with caution.
- 12 Jomard's tracings of the 1515 globe are in Edme-François Jomard, *Les monuments de la géographie* (Paris: M. Duprat, 1862), Plates 15 and 16, and are reproduced in part in A. E. Nordenskiöld, *Facsimile-Atlas to the Early History of Cartography* (Stockholm: Norstedt, 1889; New York: Dover Publications, 1973), pp. 78–79.
  - 13 See Francis Herbert, "The Earliest Known Facsimile Globe," *The Map Collector* 41 (Winter, 1987), pp. 22–23.
  - 14 In a lecture entitled, "Evidence for a Lost Map Used by Waldseemüller in his Depiction of Eastern Africa and the Indian Ocean," delivered May 15, 2009, at the conference "Exploring Waldseemüller's World," May 14 and 15, 2009, at the Library of Congress, Washington, DC, I raised the possibility that Schöner saw these sea monster images in a lost map used as a source by Waldseemüller and Arnold von Harff, but there is not yet enough evidence to determine whether or not this was the case.
  - 15 The *Hortus sanitatis* "major" is to be distinguished from the *Hortus sanitatis* "minor," which is a Latin translation of the German herbal often titled *Gart der Gesundheit*, first published by P. Schoeffer, Mainz, 1485. The herbal published in 1485 has 435 chapters, whereas the *Hortus Sanitatis* "major" of 1491 has 1,066 chapters. There is some very brief discussion of the different editions of each work in J. Christian Bay, "Hortus sanitatis," *Papers of the Bibliographical Society of America* 11.2 (1917), pp. 57–60, but his paper is in essence a call for further research; details about and discussion of the early editions of the *Hortus sanitatis* are provided by Arnold C. Klebs, "Herbals of 15th Century," *Papers of the Bibliographical Society of America* 11 (1917), pp. 75–92, and 12 (1918), pp. 41–57, esp. pp. 48–51 and 54–57. There is a more detailed discussion in Joseph Frank Payne, "On the 'Herbarius' and 'Hortus sanitatis'," *Transactions of the Bibliographical Society* 6.1 (1901), pp. 63–126, esp. pp. 105–124.
  - 16 It should be remarked that on his hand-painted globe of 1520 (Nürnberg, Germanisches Nationalmuseum, WI 1), which is 87 cm in diameter, Schöner seems to be using other iconographic sources in addition to the *Hortus sanitatis*. In some cases he depicts the same sea monster in the same spot on this globe, (e.g., a siren north of Java Major), but some of the images on his 1520 globe are new. The sea monsters on Schöner's 1520 globe are omitted entirely in the tracing of the east Asian, American, and Atlantic portions of the globe in Konrad Kretschmer, *Die Entdeckung Amerika's in ihrer Bedeutung für die Geschichte des Weltbildes* (Berlin: W. H. Kühn, 1892), Plate 13; they are imperfectly and incompletely represented on the tracing of the same hemisphere of the globe in Wieser, *Magalhães-Strasse und Austral-Continent*, Plate 1. There is a brief discussion of this beautiful globe, with transcription of some legends, in Friedrich Wilhelm Ghillany, *Der Erdglobus der Martin Behaim vom Jahre 1492 und der des Johann Schöner vom Jahre 1520* (Nürnberg: Druck der Campeschen Officin, 1842), pp. 13–18; see also Konrad Kretschmer, "Der Globus Johannes Schöner's vom Jahre 1520," in *Beiträge zur alten Geschichte und Geographie: Festschrift für Heinrich Kiepert* (Berlin: D. Reimer (Ernst Vohsen), 1898), pp. 113–123.
  - 17 Uwe Ruberg, "Die Tierwelt auf der Ebstorfer Weltkarte im Kontext mittelalterlicher Enzyklopädik," in Hartmut Kugler and Eckhard Michael, eds., *Ein Weltbild vor Columbus. Die Ebstorfer Weltkarte. Interdisziplinäres Colloquium 1988* (Weinheim: VCH, 1991), pp. 319–346. He shows connections between the Ebstorf *mappamundi* and the twelfth-century text *De bestiis et aliis rebus*, and also the bestiary Cambridge University Library MS li.4.26, which is reproduced in facsimile in M. R. James, ed., *The Bestiary; Being a Reproduction in Full of the Manuscript li.4.26 in the University Library, Cambridge* (Oxford: Printed for the Roxburghe Club, by J. Johnson at the University Press, 1928).
  - 18 See Naomi Reed Kline, *Maps of Medieval Thought: The Hereford Paradigm* (Woodbridge, Suffolk, UK, and Rochester, NY: Boydell Press, 2001), Chapter 4, "The World of Animals"; Margriet Hoogvliet, "De ignotis quarundam bestiarum naturis. Texts and Images from the Bestiary on Mediaeval Maps of the World," in L.A.J.R. Houwen, ed., *Animals and the Symbolic in Medieval Art and Literature* (Groningen: Egbert Forsten, 1997), pp. 189–208; Margriet Hoogvliet, "Hic nulli habitant propter leones et ursos et pardes et tigrides. Die Zoologie der mappae mundi,"



- in Ulrich Müller and Werner Wunderlich, eds., *Dämonen, Monster, Fabelwesen* (St. Gallen: UVK-Fachverlag für Wissenschaft und Studium, 1999), pp. 89–102; and Margriet Hoogvliet, “Animals in Context: Beasts on the Hereford Map and Medieval Natural History,” in P.D.A. Harvey, ed., *The Hereford World Map: Medieval World Maps and their Context* (London: British Library, 2006), pp. 153–165.
- 19 The Catalan Estense map is Modena, Biblioteca Estense Universitaria, C.G.A. 1, and has been reproduced in facsimile, with transcription and commentary, in Ernesto Milano and Annalisa Batini, *Mapamundi Catalán Estense, escuela cartográfica mallorquina* (Barcelona: M. Moleiro, 1996); there is a high-resolution digital image of the map on the CD-ROM titled *Antichi planisferi e portolani: Modena, Biblioteca Estense Univesitaria* (Modena: Il Bulino; and Milan: Y. Press, 2004), and a good study of it in Konrad Kretschmer, “Die katalanische Weltkarte der Biblioteca Estense zu Modena,” *Zeitschrift der Gesellschaft für Erdkunde zu Berlin* 32 (1897), pp. 65–111 and 191–218. The Catalan bestiary in question is Barcelona, Biblioteca de la Universidad de Barcelona, MS 75, with the description of the different types of sirens on f. 164v; for general context see Fernando Pérez Suescun and M. Victoria Rodríguez López, “Las sirenas medievales: aproximación literaria e iconográfica,” *Anales de historia del arte* 7 (1997), pp. 55–66, esp. p. 59; for the assertion that the Catalan bestiary was the source for the legend on the Catalan Estense map, see Gabriel Llopart i Moragues in *L’atlas català de Cresques Abraham* (Barcelona: Diàfora, 1975), p. 54; with additional details and discussion in Sandra Sáenz-López Pérez, “Imagen y conocimiento del mundo en la Edad Media a través de la cartografía Hispana,” PhD Dissertation, Universidad Complutense de Madrid, 2007, Vol. 1, pp. 704–707. The text is also transcribed and translated into English by Catherine Fountain, “From a Catalan Bestiary: De la natura de la çerena,” *Cornell Working Papers in Linguistics* 17 (1999), pp. 10–13.
  - 20 This long river flows between an unnamed lake in Central Africa and *Sacus Lacus* in the south, just west of the *Lune Montes*. There is a very similar river on Waldseemüller’s 1507 map.
  - 21 Wieser, *Magalhães-Strasse und Austral-Continent*, pp. 21–23.
  - 22 The two nameless islands south of Java Major also appear on Waldseemüller’s 1507 map.
  - 23 The Green Globe is discussed by Gabriel Marcel, “Un globe manuscrit de l’école de Schoener,” *Bulletin de géographie historique et descriptive* 2 (1889), pp. 173–179; Gallois, *Les géographes allemands de la Renaissance*, pp. 80–82; HARRISSE, *The Discovery of North America*, pp. 489–491; Stevenson, *Terrestrial and Celestial Globes*, Vol. 1, pp. 76–77 and Fig. 38; and Monique Pelletier, “Le Globe vert et l’oeuvre cosmographique du Gymnase vosgien,” *Bulletin du Comité français de cartographie* 163 (2000), pp. 17–31. At the end of her article Pelletier provides tables of some African and all New World toponyms placenames on the Caverio chart, the Green Globe, Waldseemüller’s 1507 map, the Strassburg Ptolemy of 1513, and Waldseemüller’s 1516 *Carta marina*—but curiously no toponyms from Schöner. The Green Globe is also illustrated in Seymour I. Schwartz and Ralph E. Ehrenberg, *The Mapping of America* (New York: H. N. Abrams, 1980), pl. 9, p. 35, and Monique Pelletier, ed., *Couleurs de la terre: Des mappemondes médiévales aux images satellitales* (Paris: Bibliothèque nationale de France, 1998), Plate 92. The Bibliothèque nationale de France has a set of high-resolution photos of the globe under the signature GE BB- 1741 (1–6).
  - 24 In my article, “The Cartography... of the Southern Ring Continent,” (see note 10), p. 127, I note that the river between the two lakes on the Green Globe’s southern continent looks nothing like any of the other rivers on the globe, which are all narrow and finely drawn; in fact it looks much more like the mountain ranges elsewhere on the globe, but is helpfully labeled *flumo*. This is strong evidence that the southern ring continent on the Green Globe was copied from another source, and was not something conceived by the globe’s cartographer: In reproducing the continent he evidently mistook the river for another mountain chain, and then labeled it *flumo* to rectify this error.
  - 25 For discussion of the Brixen globe see HARRISSE, *The Discovery of North America*, pp. 491–492; J. Luksch, “Zwei Denkmale alter Kartographie,” *Mitteilungen der Kaiserlich-Königlichen Geographischen Gesellschaft* 29 (1886), pp. 364–373, who details the similarities in the depictions of the New World on the Brixen Globe and Schöner’s 1515 globe; Stevenson, *Terrestrial and Celestial Globes*, Vol. 1, pp. 75–76; Eugen Oberhummer in his review of Stevenson’s book

- in *Geographical Review* 14.1 (1924), pp. 101–112, esp. pp. 104–105; and Eugen Oberhummer and Arnold Feurstein, "Die Brixener Globen von 1522 der Sammlung Hauslab-Liechtenstein," *Denkschriften, Akademie der Wissenschaften in Wien, philosophisch-historische Klasse* 67.3 (1926), 15 pp. with 4 plates. There is a good illustration of the globe in gores in Oswald Muris and Gert Saarmann, *Der Globus im Wandel der Zeiten; eine Geschichte der Globen* (Berlin: Columbus Verlag, 1961), Fig. 17 between pp. 72 and 73, and see Fig. 23 following p. 80; and better photographic illustrations in Jay A. Levenson, ed., *Encompassing the Globe: Portugal and the World in the 16th and 17th Centuries* (Washington, DC: Arthur M. Slacker Gallery, Smithsonian Institution, 2007), Vol. 1, 66–67, and see Vol. 2, pp. 15–16. A brief description of the globe together with an account of its acquisition by the Yale Center for British Art may be found in Elisabeth Fairman, "Wherein all Trauailers may Vnderstand How to Direct their Voyages': Maps and Atlases at the Yale Center for British Art from the Bequest of Paul Mellon," *Yale Library Gazette* 75.3–4 (2001), pp. 111–144, esp. pp. 115–116 and Plate 3; and see Christopher Wood, "Print Technology and the Brixen Globes," *Kunsthistoriker: Mitteilungen des österreichischen Kunsthistorikerverbandes* 15–16 (1999–2000), pp. 15–20.
- 26 On the attribution of the maps in the 1513 Ptolemy to Waldseemüller see R. A. Skelton's introduction to the facsimile edition of this edition of Ptolemy, which is *Geographia, Strassburg, 1513* (Amsterdam: Theatrum Orbis Terrarum, 1966), pp. i–xx. A good PDF scan of a copy of the 1513 Strassburg Ptolemy with hand-colored maps is available for download from the Munich Digitisation Centre of the Bayerische Staatsbibliothek, at <http://www.digital-collections.de>.
- 27 The unique surviving copy of Waldseemüller's *Carta marina* was preserved in the Schöner Sammelband and is now in the Jay I. Kislak collection at the Library of Congress. For discussion see John Hessler, "The Schöner Sammelband," in Arthur Dunkelman, *The Jay I. Kislak Collection at the Library of Congress: A Catalog of the Gift of the Jay I. Kislak Foundation to the Library of Congress* (Washington, D.C.: Library of Congress, 2007), pp. 99–108; the map is reproduced in facsimile in *Die älteste Karte mit dem Namen Amerika aus dem Jahre 1507 und die Carta marina aus dem Jahre 1516 des M. Waldseemüller (Ilacomilus)*, eds. Joseph Fischer and Franz Ritter von Wieser (Innsbruck: Wagner'schen Universitäts-Buchhandlung, 1903; Amsterdam: Theatrum orbis terrarum, 1968). All of the toponyms, but not the legends, on Waldseemüller's *Carta marina* are transcribed by Meret Petrzilka, *Die Karten des Laurent Fries von 1530 und 1531 und ihre Vorlage, die 'Carta Marina' aus dem Jahre 1516 von Martin Waldseemüller* (Zurich: Neuen Zürcher Zeitung, 1970), pp. 42–110.
- 28 See Andrea Tessier, "Due antichi globi terrestri," *Bollettino della Società Geografica Italiana*, Serie II, Vol. 1 (1876), pp. 39–42, esp. pp. 39–41; and Stevenson, *Terrestrial and Celestial Globes*, Vol. 1, pp. 79–81.
- 29 Alfred Stückelberger and Gerd Grasshoff's edition of Ptolemy's Greek text, *Klaudios Ptolemaios: Handbuch der Geographie* (Basel: Schwabe Basel, 2006) is the first in more than 150 years, and also includes a German translation, but as Schöner was using Latin translations of Ptolemy, it is not directly relevant to our work here. The English translation by Edward L. Stevenson, *Geography of Claudius Ptolemy* (New York: The New York Public Library, 1932); republished as *The Geography / Claudius Ptolemy* (Mineola, NY: Dover, 1991), is to be used with caution. A translation of Ptolemy's *Geography* into Spanish is included in *Cosmografía de Claudio Ptolomeo: Códice Latino Biblioteca Universitaria de Valencia (Siglo XV)*, ed. and trad. Angel Aguirre Alvarez, Victor Navarro Brotons y Enrique Rodríguez Galdeano (Valencia: Vicent García Editores, 1983). Stahl's bibliography on Ptolemy's *Geography* is very useful: William Harris Stahl, "Ptolemy's Geography: A Select Bibliography," *Bulletin of the New York Public Library* 55.9 (1951), pp. 419–432; 55.10 (1951), pp. 484–495; 55.11 (1951), pp. 554–564; 55.12 (1951), pp. 604–614; 56.1 (1952), pp. 18–41; and 56.2 (1952), pp. 94–96.
- 30 On the "German Ptolemy" see Joseph Fischer, ed., *Der 'Deutsche Ptolemäus' aus dem Ende des XV. Jahrhunderts (um 1490) in Faksimiledruck* (Strassburg: J. H. E. Heitz, 1910).
- 31 Schöner's copy of the 1482 Ulm Ptolemy is ÖNB Handschriftensammlung, Codex 3292; Schöner's manuscript summaries (dated 1509) of Books I and VII from the "German Ptolemy" are ÖNB Handschriftensammlung, Codex 2992; and his copy of the 1513 Strassburg Ptolemy is ÖNB Kartensammlung, 393.692 D.K. An inadequate account of the books from Schöner's library that are now preserved in the ÖNB may be found in Monika Maruska,

- "Die Handschriften aus der Bibliothek des fränkischen Gelehrten Johannes Schöner in der Österreichischen Nationalbibliothek," in Kurt Mühlberger and Thomas Maisel, eds., *Aspekte der Bildungs- und Universitätsgeschichte: 16. bis 19. Jahrhundert* (Vienna: WUV-Universitätsverlag, 1993), pp. 409–435; and the same author's "Johannes Schöner—'Homo est nescio qualis': Leben und Werk eines fränkischen Wissenschafters an der Wende vom 15. zum 16. Jahrhundert," PhD dissertation, Universität Wien, 2008, pp. 87–101; see also Franz Wawrik, "Kartographische Werke in der Österreichischen Nationalbibliothek aus dem Besitz Johannes Schöners," *International Yearbook of Cartography* 21 (1981), pp. 195–202; and the same author's "The Johannes Schöner Collection of Cartographical Works in the Austrian National Library," in *Imago et Mensura Mundi, Atti del IX Congresso Internazionale di Storia della Cartografia* (Rome: Istituto della Enciclopedia Italiana, 1985), Vol. 1, pp. 297–301.
- 32 For discussion of the *Luculentissima* see Henry Harrisse, *Bibliotheca americana vetustissima: A Description of Works Relating to America, Published between the Years 1492 and 1551* (New York: G. P. Philes, 1866), # 80–81, pp. 140–143. Harrisse translates the full title of the work into English as follows: *A Most Luminous Description of the Whole Earth, Together with Many Very Useful Elements of Cosmography. A New and Truer Description of Europe than Any of the Preceding Ones. The Oldest Names of Rivers, Mountains, Cities and of Most Nations, have been Compared with the Recent Ones; The Reader will Also Find Many Other Things New and Useful to Him.* On the *Luculentissima* see also Wieser, *Magalhães-Strasse und Austral-Continent*, pp. 19–21. A good PDF scan of the *Luculentissima* is available for download from the Munich Digitisation Centre of the Bayerische Staatsbibliothek, at <http://www.digital-collections.de>.
- 33 To mention just a few examples here, *Heptanesia insula*, *Tricadeba insula*, and *Nauigeris insula* on f. 53r of the *Luculentissima* do not appear on the globe, and the island *Sama* in the Indian Ocean on the globe does not appear in the *Luculentissima*.
- 34 The Cantino chart is Modena, Biblioteca Estense Universitaria, C. G. A. 2, and is well reproduced in Kenneth Nebenzahl, *Atlas of Columbus and the Great Discoveries* (Chicago: Rand McNally, 1990), pp. 35–37; and better in Armando Cortesão and Avelino Teixeira da Mota, *Portugaliae monumenta cartographica* (Lisbon: Comissão Executiva das Comemorações do Quinto Centenário da Morte do Infante D. Henrique, 1960–62), Vol. 1, Plate 5, with discussion and transcriptions and English translations of the map's legends in pp. 7–13. The map has also been reproduced in facsimile as *Carta del Cantino. Charta del navichare per le isole novament trovate in la parte de l'India* (Modena: Il Bulino, 2004), together with a volume of commentary by Ernesto Milano; and a high-resolution digital image of the map has been published on the CD-ROM titled *Antichi planisferi e portolani: Modena, Biblioteca Estense Universitaria* (Modena: Il Bulino; and Milan: Y. Press, 2004). For analysis of the map see Henry Harrisse, *Les Corte-Real et leurs voyages au Nouveau-monde* (Paris: E. Leroux, 1883) pp. 69–158; Giuseppe Piersantelli, "La pittura nella Charta del navicare del Cantino," *Bollettino del Civico istituto colombiano* 1.2 (1953), pp. 38–50; and João António de Mascarenhas Judice, Visconde de Lagôa, *Achegas para o estudo do planisfério dito de Cantino e das primeiras explorações portuguesas do litoral brasileiro* (Lisbon: Junta das Missões Geográficas e de Investigações do Ultramar, 1955), pp. 35–105.
- 35 The Caverio chart is Paris, Bibliothèque nationale de France, Cartes et plans, SH archives 1, and this chart or one very closely related to it was an important source for Waldseemüller's 1507 map: see Joseph Fischer and Franz Ritter von Wieser, *Die älteste Karte mit dem Namen Amerika aus dem Jahre 1507 und die Carta marina aus dem Jahre 1516 des M. Waldseemüller (Ilacomilus)* (Amsterdam: Theatrum orbis terrarum, 1968), pp. 26–29. The chart is well reproduced in Nebenzahl, *Atlas of Columbus*, pp. 41–43, and at a larger scale in the eleven sheet black-and-white facsimile which accompanies Edward L. Stevenson's study of the map, *Marine World Chart of Nicolo de Caneiro Januensis 1502 (circa)* (New York: American Geographical Society and the Hispanic Society of America, 1908). The longer legends on the map are transcribed by Armando Cortesão, *Cartografia e cartógrafos portugueses dos séculos XV e XVI* (Lisbon: Seara Nova, 1935), Vol. 1, pp. 154–155. There is a color facsimile, which however is smaller than the original: *Planisphère nautique sur vélin du Génois Nicolao de Caverio* (Paris: Bibliothèque nationale, 1992). For discussion of the map in addition to that in Stevenson's work see L. Gallois, "Le Portulan de Nicolas de Canerio," *Bulletin de la Société de Géographie de Lyon* 9 (1890), pp. 97–119, reprinted in *Acta Cartographica* 9 (1970), pp. 76–98.

- 36 See HARRISSE, *The Discovery of North America*, p. 316.
- 37 See HARRISSE, *The Discovery of North America*, p. 490; and Marcel, "Un globe manuscrit" (see note 23), pp. 5–6, who compares the New World toponyms of these globes. Also see Pelletier, "Le Globe vert" (see note 23) who supplies tables of the New World toponyms on Caverio, Waldseemüller's 1507 map, the Green Globe, the 1513 edition of Ptolemy, and Waldseemüller's 1516 *Carta marina*—but unfortunately none of Schöner's works.
- 38 See HARRISSE, *The Discovery of North America*, p. 318; and *Select Letters of Christopher Columbus, with Other Original Documents, Relating to His Four Voyages to the New World*, ed. and transl. R. H. Major (London: Hakluyt Society, 1847), p. 120. Incidentally there is a good discussion of the meaning of "discovery" in Vitorino Magalhães Godinho, "Rôle du Portugal aux XVe–XVIe siècles: qu'est-ce que découvrir veut dire? Les nouveaux mondes et un monde nouveau," in 1492, *le choc de deux mondes: ethnocentrisme, impérialisme juridique et culturel, choc des cultures, droits de l'homme et droits des peuples: actes du colloque international* (Paris: La Différence, 1993), pp. 55–92; and in Wilcomb E. Washburn, "The Meaning of 'Discovery' in the Fifteenth and Sixteenth Centuries," *The American Historical Review* 68.1 (1962), pp. 1–21, reprinted in Ursula Lamb, ed., *The Globe Encircled and the World Revealed* (Aldershot, Hampshire, and Brookfield, VT: Variorum, 1995), pp. 49–69.
- 39 For discussion of the naming of America see the references cited in note 9 above. On the *Cosmographiae introductio* see HARRISSE, *Bibliotheca americana vetustissima*, #44–47, pp. 89–96; the work is reproduced in facsimile and translated into English by Joseph Fischer and Franz von Wieser in *The Cosmographiae introductio of Martin Waldseemüller in Facsimile, Followed by the Four Voyages of Amerigo Vespucci, with their Translation into English* (New York: The United States Catholic Historical Society, 1907). A new translation of the *Cosmographiae introductio* by John Hessler, together with detailed analysis of the work, may be found in his *The Naming of America: Martin Waldseemüller's 1507 World Map and the 'Cosmographiae introductio'* (London: D. Giles, 2008). The work has also been reproduced in facsimile and translated into Spanish by Miguel León-Portilla in *Introducción a la cosmografía y las cuatro navegaciones de Américo Vespucio* (Coyoacán: Universidad Nacional Autónoma de México, 2007); the accompanying CD includes Spanish translations of all of the long legends on Waldseemüller's 1507 map.
- 40 See Martín Fernández de Navarrete, *Colección de los viages y descubrimientos que hicieron por mar los españoles desde fines del siglo XV* (Madrid: Imprenta real, 1825–37), Vol. 2, p. 252, and also Vol. 3, p. 111.
- 41 For discussion of the later history of indications and representations on maps of cannibals in this area see Cynthia A. Chambers, "Cannibalism in a Cultural Context: Cartographic Imagery and Iconography of the New World Indigenous Peoples during the Age of Discovery," PhD Dissertation, The University of Texas at Arlington, 2006; and Surekha Davies, "Representations of Amerindians on European Maps and the Construction of Ethnographic Knowledge, c. 1506–1624," Dissertation, Warburg Institute, School of Advanced Study, University of London, 2008, esp. Chap. 7.
- 42 There is an aerial photograph of Cape San Roque in Samuel Eliot Morison, *The European Discovery of America: The Southern Voyages A.D. 1492–1616* (New York: Oxford University Press, 1974), p. 212.
- 43 The "Regiment of Munich," a book of instructions for Portuguese navigators published c. 1509, includes a calendar of saints to facilitate the naming of coastal features; the calendar is reprinted pp. 13–24 in the facsimile edition of the Regiment edited by Joaquim Bensaúde, *Regimento do estrolabio e do quadrante: tractado da spera do mundo: introduction à la reproduction fac-similé du seul exemplaire connu appartenant à la Bibliothèque royale de Munich* (Munich: C. Kuhn, 1914) = *Histoire de la science nautique portugaise à l'époque des grandes découvertes* Vol. 1. The calendar is also printed in Luís de Albuquerque, *Os guias náuticos de Munique e Évora* (Lisbon: Junta de Investigações do Ultramar, 1965), pp. 139–150.
- 44 Cabral called the whole land he had encountered (i.e. South America) first Terra de Vera Cruz, and later Terra de Santa Cruz, and this latter name was applied to the continent by some cartographers and geographers. On the naming by Cabral see William Brooks Greenlee, *The Voyage of Pedro Álvares Cabral to Brazil and India, from Contemporary Documents and Narratives* (London: Printed for the Hakluyt Society, 1938) = Works Issued by the Hakluyt

- Society, 2nd Series, no. 81, p. 7. On the Cantino chart the legend off the continent's eastern coast refers to the land as *vera cruz* and describes Cabral's discovery of it (see *Portugaliae monumenta cartographica*, Vol. 1, p. 11); on the Caverio map this cape is labeled *Cabo Sã croce* (see Stevenson, *Marine World Chart*, p. 53) and east of the continent there is a legend which refers to the continent by the name *aurea crus* (see Stevenson, *Marine World Chart*, pp. 57–58). For a mid-sixteenth-century discussion of this issue see Pero de Magalhães Gândavo, *Historia da prouincia sãcta Cruz a que vulgarramete chamamos Brazil* (Lisbon: A. Gonçalvez, 1576), Chap.1; this first edition is published in facsimile together with an English translation by John B. Stetson in *The Histories of Brazil* (Boston: Milford House, 1972).
- 45 This legend on Waldseemüller's map is discussed by Gaetano Ferro, Luisa Faldini, and Marica Milanesi, *Columbian Iconography*, trans. Luciano F. Farina and Carla Onorato Wysokinski (Rome: Istituto poligrafico e Zecca dello Stato, Libreria dello Stato, 1996), pp. 438–439.
  - 46 The "Kunstmänn II" map is Munich, Bayerische Staatsbibliothek, Cod. icon. 133; there is a tracing of the map in Konrad Kretschmer, *Die historischen Karten zur Entdeckung Amerikas: Atlas nach Konrad Kretschmer* (Frankfurt am Main: Umschau, 1991), Plate 8; it is reproduced at a large scale in black and white in Edward Luther Stevenson, *Maps Illustrating Early Discovery and Exploration in America 1502–1530* (New Brunswick, NJ, 1903); and it is illustrated and discussed in Hans Wolff, ed., *America: Early Maps of the New World* (Munich: Prestel-Verlag, 1992), pp. 134–136; and Ivan Kupcák, *Münchener Portolankarten: Kunstmänn I–XIII und zehn weitere Portolankarten = Munich Portolan Charts: Kunstmänn I–XIII and Ten Other Portolan Charts* (Munich: Deutscher Kunstverlag, 2000), pp. 28–34.
  - 47 The latter part of this passage echoes a legend on Waldseemüller's 1507 map beneath the ship off the eastern coast of South America, which in turn echoes legends on the Cantino and Caverio map off the eastern coast of South America: see *Portugaliae monumenta cartographica*, Vol. 1, p. 11, and Stevenson, *Marine World Chart*, pp. 57–58, respectively.
  - 48 Fernando Lourenço Fernández, *O Planisfério de Cantino e o Brasil: uma introdução à cartologia política dos descobrimentos e o Atlântico Sul* (Lisbon: Academia de Marinha, 2003), esp. pp. 40 and 47–48, notes that this legend, together with a few others, is written in a different hand than most of the legends on the Cantino map.
  - 49 In the original Italian edition of Vespucci's account of his voyages, *Lettera di Amerigo vespucci delle isole nuouamente trouate in quattro suoi viaggi* (Florence: Antonio Tubini & Andrea Ghirlandi, 1505; facsimile edition Princeton: Princeton University Press, 1916), it is called *la badia di tucti e sancti*; in the edition in the *Cosmographiae introductio* it is called *omnium sanctorum Abbaciam*.
  - 50 There is an aerial photograph of Cabral's Monte Pascoal in Samuel Eliot Morison, *The European Discovery of America: The Southern Voyages A.D. 1492–1616* (New York: Oxford University Press, 1974), p. 223.
  - 51 For more about New World parrots on maps see Gaetano Ferro, Luisa Faldini, and Marica Milanesi, *Columbian Iconography*, trans. Luciano F. Farina and Carla Onorato Wysokinski (Rome: Istituto poligrafico e Zecca dello Stato, Libreria dello Stato, 1996), pp. 528–535; and Renate Pieper, "Amerikanische Papageien als Symbol der Neuen Welt," in her *Die Vermittlung einer neuen Welt: Amerika im Nachrichtennetz des Habsburgischen Imperiums 1493–1598* (Mainz: P. von Zabern, 2000), pp. 245–271; a shorter version of her study was published in Spanish as "Papagayos americanos, mediadores culturales entre dos mundos" in Eddy Stols, Werner Thomas, and Johan Verberckmoes, eds., *Naturalia, mirabilia & monstrosa en los imperios Ibéricos (siglos xv–xix)* (Leuven: Leuven University Press, 2005), pp. 123–134.
  - 52 The pamphlet is reproduced in facsimile and translated, with commentary, by Mark Graubard and John Parker, *Copia der newen Zeytung aus Presillg Landt, Tidings out of Brazil* (Minneapolis: University of Minnesota Press, 1957); the text is also supplied (pp. 99–107) and discussed by Wieser, *Magalhães-Strasse und Austral-Continent*. Wieser supposes the expedition in question to have taken place before 1509; Graubard and Parker discuss the dating of the pamphlet pp. 7–13, concluding that it was probably written in 1514.
  - 53 For discussion of the strait at the southern tip of South America see the works by Wieser, Hennig, and Enterline cited earlier in note 11; Enterline's article is highly speculative.
  - 54 E. G. Ravenstein, *Martin Behaim, his Life and his Globe* (London: G. Philip & Son, Ltd., 1908), pp. 64 and 70, says that Waldseemüller did not know Behaim's globe, but that they may

- have used a common source, but Wawrik, "The Johannes Schöner Collection of Cartographical Works in the Austrian National Library" (see note 3), p. 298, cites good evidence that he did know it. On the sole surviving copy of Waldseemüller's 1507 map, which was owned by Schöner, the sheet covering southern Africa contains a manuscript annotation in the left-hand margin near the *insule 7 delle pulzelle* which is in Schöner's hand and is a loose Latin translation of Behaim's legend on the *Insule martine*—see my "Cartographic Invention: The Southern Continent on Vatican MS. Urb. Lat. 274, Folios 73v–74r (c.1530)," *Imago Mundi* 59.2 (2007), pp. 193–222, esp. p. 200—and this is strong evidence that Schöner knew Behaim's globe. Ravenstein's work contains commentary on all of the toponyms and legends on the globe, as well as a facsimile in four large folding plates. See also the photographs of the whole surface of the globe in "Der Behaim-Globus zu Nürnberg. Eine Faksimile-Wiedergabe in 92 Einzelbildern," *Ibero-amerikanisches Archiv* 17 (1943), pp. 1–48, followed by Oswald Muris, "Der 'Erdapfel' des Martin Behaim," pp. 49–64.
- 55 The different names applied to Babueca are listed by Gregory C. McIntosh, *The Piri Reis Map of 1513* (Athens: University of Georgia Press, 2000), p. 100; for further discussion of the island see Gregory C. McIntosh, "Martín Alonso Pinzón's Discovery of Babueca and the Identity of Guanahani," *Terrae Incognitae* 24 (1992), pp. 79–100.
  - 56 I did not find Emilio Cueto, "Cartografía Cubana: 1500–1898," *Cuban Studies* 27 (1998), pp. 140–244, to be very helpful. For a good account of Columbus's voyages to Cuba see Antonio Núñez Jiménez, *El almirante en la tierra más hermosa: los viajes de Colón a Cuba* (Cádiz: Diputación Provincial de Cádiz, 1985).
  - 57 From *Luculentissima* f. 60v: *Huius quartae quam quidam volunt esse Offiram: de qua Regum libro .3. Nudi etiam ambulant: ferrum non habent. Adorant coelum: solem: & lunam. Vescuntur radicibus arborum: Aurum non multum habent: sed id quod apud eos reperitur auribus & naso appendunt ornatus causa. Animalia quadrupedia non habent praeter Cuniculos. Serpantum maxima multitudo. Turtles sylvestres: & Anates maiores nostris. Anseres maximos in summa albedine: quorum capita plumis rubies natura decorauit. Papagalli virides: & quidam coloris aurei. Ibi Mastix: Aloe: Bombex Cinnamomum: Zinziber colligitur.* Waldseemüller also mentions that some hold Spagnolla to be Ophir in his legend describing the island in his *Carta marina*; that legend is transcribed, translated and discussed in Gaetano Ferro, Luisa Faldini, and Marica Milanese, *Columbian Iconography*, trans. Luciano F. Farina and Carla Onorato Wysokinski (Rome: Istituto poligrafico e Zecca dello Stato, Libreria dello Stato, 1996), pp. 526–527.
  - 58 Juan de la Cosa's map is Madrid, Museo Naval, MN 257; it is conveniently illustrated in Nebenzahl's *Atlas of Columbus*, pp. 32–33; the toponyms on the map are transcribed in Hugo O'Donnell y Duque de Estrada, *El mapamundi denominado 'Carta de Juan de la Cosa'* (Madrid: Gabinete de Bibliofilia, 1992), pp. 144–175—this book is the study which accompanies a facsimile of the map. Other useful studies of the map include Hugo O'Donnell y Duque de Estrada, "La carta de Juan de la Cosa," *Historia* 16.173 (1990), pp. 84–94; and F. Silió Cervera, *La Carta de Juan de la Cosa (1500): Análisis cartográfico* (Santander: Fundación Marcelino Botín, 1995). The map has also been reproduced in facimile as *El mapa de Juan de la Cosa* (Madrid: Testimonio Compañía Editorial, 1992), accompanied by a study by José Luis Comellas; and as *Carta de Juan de la Cosa: año de 1500* (Madrid: Editorial Egeria, 1992).
  - 59 Contarini's map is conveniently illustrated in Nebenzahl's *Atlas of Columbus*, pp. 45–47, and reproduced in facsimile with commentary in *A Map of the World, Designed by Gio. Matteo Contarini, Engraved by Fran. Roselli 1506* (London: Printed by Order of the Trustees, Sold at the British Museum, 1926).
  - 60 P.J.J. Valentini, "The Portuguese in the Track of Columbus (1493): Part 3," *Journal of the American Geographical Society of New York* 21 (1889), pp. 167–196, esp. p. 186.
  - 61 William H. Tillinghast, "Notes on the Historical Hydrography of the Handkerchief Shoal in the Bahamas," *Bulletin of Harvard University* 20 (October, 1881), pp. 258–263, provides some discussion of this shoal, but does not address the toponymy.
  - 62 See further Labor Gómez Acevedo and Manuel Ballesteros Gaibrois, *Hallazgo de Boriquén y polémica de su descubrimiento* (Río Piedras, P.R.: Editorial Cultural, 1980).
  - 63 Waldseemüller in his map *Terre Nove* in the 1513 Strassburg Ptolemy (see Nebenzahl, *Atlas of Columbus*, pp. 64–65) and his 1516 *Carta marina*, and also Schöner on his 1520 globe, revert to one island here.

- 64 For discussion of the relevant passages in Columbus's account of his first voyage see for example Yobenj Aucardo Chicangana-Bayona, "El nacimiento del *Caníbal*: un debate conceptual," *Historia Crítica* 36 (Bogotá) (2008), pp. 150–173.
- 65 The text "De insulis minoribus" may be found in pp. 285–287 of the facsimile of the 1611 edition of Sanudo's work: Joshua Prawer, ed., *Liber secretorum fidelium crucis* (Toronto: Pre-ium academicum Universitatis Torontonensis, 1972); this passage is discussed by Manuel Francisco de Barros Santarém, *Essai sur l'histoire de la cosmographie et de la cartographie pendant le Moyen-âge* (Paris: Maulde et Renou, 1849–52), Vol. 1, p. 135, and Vol. 3, pp. 203–204. On Vesconte's maps see Evelyn Edson, "Reviving the Crusade: Sanudo's Schemes and Vesconte's Maps," in Rosamund Allen, ed., *Eastward Bound: Travels and Travellers, 1050–1500* (Manchester: Manchester University Press, 2004), pp. 131–155.
- 66 For discussion of the history of Iceland in maps see Halldór Hermannsson, *The Cartography of Iceland* (Ithaca, NY: Cornell University Library, 1931) = *Islandica* Vol. 21; Haraldr Sigurdsson, *Kortasaga Islands fra oendverdu til loka 16 aldar* (Reykjavik: Bokautgafa Menningarsjods og Thjodvinafelagsins, 1971), with an English summary pp. 257–266; Haraldr Sigurdsson, "Some Landmarks in Icelandic Cartography Down to the End of the Sixteenth Century," *Arctic* 37.4 (1984), pp. 389–401; and Oswald Dreyer-Eimbcke, *Island, Grönland und das nördliche Eismeer im Bild der Kartographie seit dem 10. Jahrhundert* (Stuttgart: F. Steiner, 1987), and the same author's "Island in der Kartographie," in D. Unverhau and K. Schietzel, eds., *Das Danewerk in der Kartographiegeschichte Nordeuropas* (Neumünster: K. Wachholtz, 1993), pp. 147–169.
- 67 From Luculentissima f. 18r: *Islandia insula Europae: prima a septentrione est: ultra Noruegiam sita: que Pthole. incognita permansit: que perpetua glatie in finibus remotioribus eius condemnata est. Ibi Chrystallus inuenitur lapis. Ibi albi vrsi. Incolae eius de ferarum & vrsorum pellibus quos venatu capiunt: contra frigus se muniunt: alia vestimenta habere non potunt: nisi aliunde deferantur: sunt albi valde. Habent etiam salis fodinas nobiles: ex quibus sal optimum effoditur: & ad vicinas regiones conportatur. Hic etiam Strumulus piscis ad quantitatem quasi Sturionis capitur: ac sale conditur: que demum ad nos mittitur.* Behaim in one of his legends relating to Iceland mentions that cod are exported from Iceland to Germany: see Ravenstein, *Martin Behaim*, p. 74; incidentally Sebastian Cabot also mentions this trade in a legend on his world map of 1544: see Charles Deane, "[Inscriptions on Cabot's Mapped-monde]," *Proceedings of the Massachusetts Historical Society*, Series 2, Vol. 6 (1890–91), pp. 305–339, esp. p. 318 (transcription) and 334 (translation), reprinted in H. R. Holmden, *Catalogue of Maps, Plans and Charts in the Map Room of the Dominion Archives* (Ottawa: Govt. Print. Bureau, 1912) = Publications of the Canadian Archives 8, pp. 572 (transcription) and 583 (translation).
- 68 This legend is transcribed and translated into French by Henry Harrisse, *Les Corte-Real et leurs voyages au Nouveau-monde* (Paris: E. Leroux, 1883), p. 92; and transcribed and translated into English by Armando Cortesão and Avelino Teixeira da Mota, *Portugaliae monumenta cartographica*, Vol. 1, p. 11. Harrisse offers a good account of the Corte Real voyages generally; one of the important sources on their voyage of 1500–01 is a letter by Alberto Cantino (for whom the Cantino map was prepared) to Ercole d'Este, Duke of Ferrara, and Harrisse supplies the text of this letter in his pp. 204–208; Henry Percival Biggar supplies the text of the letter and an English translation in *The Precursors of Jacques Cartier, 1497–1534* (Ottawa: Government Printing Bureau, 1911), pp. 61–65. See also Heinrich Winter, "The Pseudo-Labrador and the Oblique Meridian," *Imago Mundi* 2 (1937), pp. 61–73.
- 69 The Purgatory of St. Patrick was an alleged entrance to Purgatory on an island in Lough Derg in County Donegal, which rose to pan-European fame in the early thirteenth century; see for example Shane Leslie, *Saint Patrick's Purgatory; A Record from History and Literature* (London: Burns Oates & Washbourne, 1932).
- 70 The *Viridis insula* is mentioned by Joseph Fischer, *The Discoveries of the Norsemen in America*, trans. Basil H. Soulsby (London: H. Stevens, Son & Stiles; St. Louis, B. Herder, 1903), p. 94; the chart is listed by Tony Campbell, "Census of Pre-Sixteenth-Century Portolan Charts," *Imago Mundi* 38 (1986), pp. 67–94, p. [73], #32; the manuscript is discussed by Joseph Fischer, *Clavdii Ptolemaei Geographiae codex Vrbinas graecus* 82 (Leiden: E. J. Brill, and Leipzig, Ottonem Harrassowitz, 1932), Vol. 1.1, pp. 311–316. There is a sketch of the part of the chart in Paris, BnF, MS Lat. 4801 which includes the *insula viridis* in Axel Anton Björnbo, *Car-*

*tographia Groenlandica* (Copenhagen: I kommission hos C. A. Reitzel, 1912) (= Meddelelser om Grønland, 48), p. 126.

- 71 This passage is translated by Fridtjof Nansen, *In Northern Mists; Arctic Exploration in Early Times* (New York: Frederick A. Stokes Co., 1911), Vol. 1, p. 194, with some discussion in William H. Babcock, *Legendary Islands of the Atlantic: A Study in Medieval Geography* (New York: American Geographical Society, 1922), pp. 94–96; the Catalan map which Babcock discusses pp. 96–97 which includes the *insula viridis* is not from c. 1480 as he asserts, but is post-1530 as Malta is represented with the cross of the Knights: see Campbell, "Census of Pre-Sixteenth-Century Portolan Charts" (see note 70), p. [86], #A26. An *insula viridis* appears on Pietro Coppo's 1520 world map in his *De toto orbe libri quattuor*, Bologna, Biblioteca Comunale dell'Archiginasio, MS A. 117, reproduced in *Cristoforo Colombo e l'apertura degli spazi: Mostra storico-cartografica* (Rome: Istituto Poligrafico e Zecca dello Stato, 1992), Vol. 2, pp. 782–783, and in his map of the Atlantic in the same manuscript, and this map is illustrated and discussed in the same book, Vol. 2, pp. 679–681. The island also appears as *Ille verde* in the first map in an anonymous sixteenth-century atlas which is Milan, Biblioteca Ambrosiana, S. P. II 36, see Paolo Revelli, *I codici ambrosiani di contenuto geografico con XX tavole fuori testo* (Milan: L. Alfieri, 1929), pp. 184–185; this map is illustrated in color in Sigurdsson, *Kortasaga Islands*, between pp. 60 and 61; the island also appears in an atlas of Vicente Prunes made in Mallorca in 1600 which is Museu Marítim de Barcelona MMB 4775—see Agustín Hernando et al., *Cartografia Mallorquina* (Barcelona: Diputació de Barcelona, 2000), p. 52 for a reproduction of this detail, and p. 201 for the whole atlas. On the historical cartography of Greenland see Björnbo, *Cartographia Groenlandica* (cited in the previous note); and George M. Eberhart, "The Mapping of Greenland: An Examination of Cartographic and Geographic Sources from Ancient Times to the Present," A.M. Thesis, University of Chicago, Graduate Library School, 1976.
- 72 These are the names that Schöner gives for the Azores in his *Luculentissima: S. Georgii: Gratiosa: De pico: Michaelis: Faual: Mariae: Christi*. The names Waldseemüller gives are very similar. Some of the Azores are mentioned in the *Libro del Conosçimiento* of c. 1350: see *El libro del conocimiento de todos los reinos = The Book of Knowledge of All Kingdoms*, ed. and trans. Nancy F. Marino (Tempe: Arizona Center for Medieval and Renaissance Studies, 1999), Chap. 69, pp. 50–51, with the discussion by Richard Hennig, *Terrae Incognitae* (Leiden: E. J. Brill, 1944–56), Vol. 3, pp. 290–308. The islands appear in one of the nautical charts in the "Medici Atlas" of c. 1351 (Florence, Biblioteca Laurenziana, Gaddi 9, ff. 3v–4r), which atlas is reproduced by Theobald Fischer, *Raccolta di mappamondi e carte nautiche del XIII al XVI secolo* (Venice: F. Ongania, 1871–81), and in Ramon J. Pujades i Bataller, *Les cartes portolanes: la representació medieval d'una mar solcada* (Barcelona: Institut Cartogràfic de Catalunya, 2007), on the accompanying DVD, number A25. The islands also appear in the Catalan Atlas of 1375. The earliest map which shows the islands in essentially their correct positions is the nautical chart of Gabriel de Valseca of 1439 (Barcelona, Museu Marítim de Barcelona, MMB 3236), which reports the discovery of the islands in the following much-disputed legend: *Aquestas illes foran trobades per Diego de Sivils pelot del rey de portogall an l'ay Me cccc xxvii*, i.e. "These islands were discovered by Diego de Silves, pilot of the King of Portugal, in the year 1427"; see Ramon J. Pujades i Bataller, *La carta de Gabriel de Vallseca de 1439* (Barcelona: Lumenartis, 2009), p. 358, and for earlier discussion, Armando Cortesão, *História da cartografia portuguesa* (Lisbon: Junta de Investigações de Ultramar, 1969–70), Vol. 2, pp. 150–152.
- 73 For discussion of the name *Insulae solis* for the Azores see Chet Van Duzer, "Cartographic Invention: The Southern Continent on Vatican MS. Urb. Lat. 274, Folios 73v–74r (c.1530)," *Imago Mundi* 59.2 (2007), pp. 193–222, esp. p. 195; and also my "The History of the Azores as *Insulae solis* or Islands of the Sun in 16th Century Cartography," *Terrae Incognitae* 40 (2008), pp. 29–46. On the discovery of the Azores see Jules Mees, *Histoire de la découverte des Îles Açores et de l'origine de leur dénomination d'Îles Flamandes* (Gand: Librairie Vuylsteke, 1901); Manuel Monteiro Velho Arruda, ed., *Colecção de documentos relativos ao descobrimento e povoamento dos Açores* (Ponta Delgada: Oficina de Artes Gráficas, 1932); Diogo Gomes, "As relações do descobrimento da Guiné e das ilhas dos Açores, Madeira e Cabo Verde, versão do latim por trans. Gabriel Pereira," *Boletim da Sociedade de Geografia de Lisboa* 17.1 (1899), pp. 267–293, or the more recent edition: Diogo Gomes, *El descubrimiento de*



- Guinea y de las Islas Occidentales, ed. and trans. Daniel López-Cañete Quiles (Seville: Secretariado de Publicaciones de la Universidad de Sevilla, 1992), pp. 86–87; Armando Cortesão, “Descobrimentos no Atlântico e Evolução da sua Antiga Representação Cartográfica,” *Revista da Universidade de Coimbra* 28 (1980), pp. 469–540, esp. pp. 473–477; and Charles Verlinden, “Découverte et cartographie: Canaries, Madères, Açores, Cap Vert, Iles du Golfe de Guinée,” of *V Coloquio de Historia Canario-Americana y Coloquio Internacional de Historia Marítima*, 1982 (Las Palmas: Ediciones de la Excma. Mancomunidad de Cabildos de Las Palmas y del Excmo. Cabildo Insular de Gran Canaria, 1985), Vol. 4, pp. 6–23.
- 74 My chapter references are to the edition *Ortus sanitatis* (Strassburg: Johann Prüss, not after Oct. 21, 1497).
- 75 *Porta sancta Insula: in qua mel optimum & melius totius mundi colligitur. Est ferax frumenti: carne bouina abundant: habet Cuniculos. Ibi Sanguis draconis ex quibusdam colligitur arboribus: quae etiam fructus optimos producant similes cerasis: sed aurei coloris.* “Dragon’s Blood” is a red resin which was used in varnishes. On the discovery of Porto Santo see Gomes, *El descubrimiento de Guinea y de las Islas Occidentales*, pp. 78–79; and Armando Cortesão, “O descobrimento de Porto Santo e da Madeira e o Infante D. Henrique,” *Revista da Universidade de Coimbra* 23 (1973), pp. 305–317.
- 76 On the discovery of Madeira see Cortesão, “Descobrimentos no Atlântico” (see note 73), pp. 471–473; Cortesão, “O descobrimento” (see note 75); Verlinden, “Découverte et cartographie” (see note 73); and Gomes, *El descubrimiento de Guinea y de las Islas Occidentales*, pp. 78–79. See also Inácio Guerreiro and Luís de Albuquerque, “Cartografia antiga da Madeira, séculos XIV–XVI,” *Actas do I Colóquio Internacional de História da Madeira* 1986 (Funchal: Governo Regional da Madeira, 1989), Vol. 1, pp. 138–160; António Ferreira Serpa, “O Arquipélago da Madeira nos mapas e portulanos do século XVI,” *Arquivo histórico da Madeira* 1 (1931), pp. 125–138; and Armando Cortesão, *A história do descobrimento das ilhas da Madeira por Roberto Machim em fins do século XIV = The Story of Robert Machim’s Discovery of the Madeira Islands Late in the XIV Century* (Coimbra: Junta de Investigações do Ultramar, 1973) = *Agrupamento de Estudos de Cartografia Antiga, Série separata*, 85 (19 pp.), who concludes that the romance of Machim’s discovery of the island cannot be lightly dismissed as fiction; Machim’s story is told in Francisco Alcoforado, *An Historical Relation of the First Discovery of the Isle of Madera Written Originally in Portugeze by Don Francisco Alcafarado, who was one of the First Discoverers, thence Translated into French, and now made English* (London: Printed for William Cademan, 1675). For a mid-sixteenth-century account of the discovery of Madeira see João de Barros, *Da Asia de João de Barros: dos feitos, que os Portuguezes fizeram no descubrimento, e conquista dos mares, e terras do Oriente* (Lisbon: Livraria S. Carlos, 1973–), Decade 1, Book 1, Chap. 3 = Vol. 1, pp. 29–36 in this edition (Decade 1 was first published in 1552).
- 77 On the *dendrix* see Isidore, *Etymologiae* 12.6.23; Albertus Magnus, *De animalibus* 24.1.42 in Hermann Stadler, ed., *Albertus Magnus, De animalibus libri XXVI, nach der Cölnher Urschrift* (Münster: Aschendorff, 1916) = *Beiträge zur Geschichte der Philosophie des Mittelalters*, Vol. 15–16, Vol. 2, p. 1531; and Thomas of Cantimpré, *Liber de natura rerum* 7.30; Thomas’s work has been published as *Liber de natura rerum* (Berlin and New York: DeGruyter, 1973), and there is also a facsimile edition of Universidad de Granada MS C67 edited by Luis García Ballester which includes a transcription of the Latin and translation into Spanish and English: *De natura rerum (lib. IV–XII)* (Granada: Universidad de Granada, 1973–74); in this MS the *dendrix* is on f. 64v. In bestiaries the *dentrix* appears only in so-called Third Family manuscripts, where the text merely echoes Isidore: *Dentrix a multitudine dentium dictus* [The dentrix is so named from its many teeth]. For discussion of the families of bestiary manuscripts see M. R. James, *The Bestiary: A Reproduction in Full of MS li.4.26 in the University Library, Cambridge* (Oxford: Roxburghe Club, 1928), pp. 13–22.
- 78 On the Canary Islands in classical antiquity see Paul Schmitt, “Connaissance des îles Canaries dans l’antiquité,” *Latomus* 27 (1968), pp. 362–391; Marcos Martínez Hernández, *Las Islas Canarias de la Antigüedad al Renacimiento: nuevos aspectos* (Tenerife, Canary Islands: Centro de la Cultura Popular Canaria, 1996); and Alfredo Mederos Martín and Gabriel Escribano Cobo, “Las Islas Afortunadas de Juba II. Púnico-gaditanos y romano-mauretanos en Canarias,” *Gerión* 20.1 (2002), pp. 315–358.

- 79 On the earliest medieval visits to the Canaries see Charles Verlinden, "Lanzarotto Malocello et la découverte portugaise des Canaries," *Revue belge de Philologie et d'Histoire* 36.4 (1958), pp. 1173–1209; Buenaventura Bonnet y Reverón, "Las expediciones a las Canarias en el siglo XIV," *Revista de Indias* 18 (1944), pp. 577–610; 19 (1945), pp. 7–31; 20 (1945), pp. 189–220; and 21 (1945), pp. 389–414; Silvano Peloso, "La spedizione alle Canarie del 1341 nei rescinti di Giovanni Boccaccio, Domenico Silvestri e Domenico Bandini," *VI Coloquio de Historia Canario-Americana* (1984) (Las Palmas: Ediciones del Cabildo Insular de Gran Canaria, 1988), Vol. 2, part 2, pp. 815–827; and Giorgio Padoan, "Ad insulas ultra Hispaniam noviter repertas: el redescubrimiento de las islas atlánticas (1336–1341)," *Syntaxis* 30–31 (1993), pp. 130–143. On the conquest of the Canary Islands by Jean de Béthencourt and Gadifer de La Salle beginning in 1402 see Jean de Béthencourt, *The Canarian: or, Book of the Conquest and Conversion of the Canarians in the Year 1402*, ed. Richard Henry Major (London: Printed for the Hakluyt Society, 1872) = Works Issued by the Hakluyt Society, 46, with the remarks of C. Raymond Beazley, "The French Conquest of the Canaries in 1402–6, and the Authority for the Same," *Geographical Journal* 25.1 (1905), pp. 77–81. See also Gomes, *El descubrimiento de Guinea y de las Islas Occidentales*, pp. 67–77; and Buenaventura Bonnet y Reverón, "Un manuscrito del siglo XV. El navegante Diogo Gómez en las Canarias," *Revista de Historia Canaria* 51–52 (1940), pp. 92–100. For a mid-sixteenth-century account of the discovery of the Canary Islands see João de Barros, *Da Asia de João de Barros: dos feitos, que os Portuguezes fizeram no descubrimento, e conquista dos mares, e terras do Oriente* (Lisbon: Livraria S. Carlos, 1973–), Decade 1, Book 1, Chap. 12 = Vol. 1, pp. 98–108 in this edition (Decade 1 was first published in 1552).
- 80 From *Luculentissima* f. 38v: *Fortunatae insulae quae modo Magnae Canariae dicuntur: propter ingentes ac ferocissimos canes quos ipsae gignunt. Cibus illorum est panis ordeacius & caro caprarum: vinum non habent nisi aliunde importetur. Harum insularum sunt numero decem.* The suggestion that the Canary Islands got their name from the dogs (*canes*) inhabiting them comes originally from Pliny 6.37.205.
- 81 The names of the Cape Verdes which Schöner gives in his *Luculentissima* f. 61r are *Sancti Anthonii: Luciae: Alba: Vincentii: Salis: Visionis: Nicolai: Philippi: Iacobi: Demano.*
- 82 See Verlinden, "Découverte et cartographie" (see note 73), p. 21.
- 83 For discussion of the discovery of the archipelago see Henry Yule Oldham, "The Discovery of the Cape Verde Islands," in *Festschrift Ferdinand Freiherrn von Richthofen zum sechzigsten Geburtstag am 5. mai 1893 dargebracht von seinen Schülern* (Berlin: D. Reimer, 1893), pp. 181–195; António Brásio, "Descobrimento, povoamento, evangelização do Arquipélago de Cabo-Verde," *Studia: Revista do Centro de Estudos Historicos Ultramarinos* 10 (1962), pp. 49–97, esp. pp. 52–76; and Armando Cortesão, "Descobrimento e representação das ilhas de Cabo Verde na cartografia antiga," *Memórias da Academia de Ciências de Lisboa, Classe de Ciências* 21 (1976–77), pp. 229–250; see also A. Teixeira da Mota, "Cinco séculos de cartografia das ilhas de Cabo Verde," *Garcia de Orta, Revista da Junta de Investigações do Ultramar* 9.1 (1961), pp. 11–16 with 24 plates. A manuscript by Valentim Fernandes of 1506–1508 gives the earliest known description of the islands, and his maps are the earliest large-scale maps of the islands: see A. Fontoura da Costa, *Cartas das Ilhas de Cabo Verde de Valentim Fernandes, 1506–1508* (Lisbon: Divisão de Publicações e Biblioteca, Agência Geral das Colónias, 1939), who has good lists of the toponyms of the islands in early documents and maps pp. 61–63, and illustrates the islands in several maps on a chart between pp. 56 and 57; and Valentim Fernandes, *Description de la côte occidentale d'Afrique (Sénégal du Cap de Monte, Archipels)*, eds. Théodore Monod, A. Teixeira da Mota, and Raymond Mauny (Bissau: Centro de Estudos da Guiné Portuguesa 1951), esp. pp. 108–147.
- 84 José Ramos Coelho, *Alguns documentos do Archivo Nacional da Torre do Tombo acerca das navegações e conquistas portuguesas* (Lisbon: Imprensa Nacional, 1892), pp. 27–28.
- 85 John William Blake, *Europeans in West Africa, 1450–1560* (London: The Hakluyt Society, 1942) = Works issued by the Hakluyt Society, 2nd series, no. 86–87, Vol. 1, pp. 64–67.
- 86 This map is reproduced in Oldham (see note 83) between pp. 194 and 195; for discussion of this atlas see Marina Emiliani, "Le carte nautiche dei Benincasa, cartografi anconetani," *Bollettino della Real Società Geografica Italiana* 73 (1936), pp. 485–510, no. 10.
- 87 For discussion of *formosa* / Fernando Po see Raimundo José da Cunha Matos, *Corografia*

- histórica das ilhas de S. Tomé, Príncipe, Anno Bom, e Fernando Po* (São Tomé: Imprensa Nacional, 1916); A. Teixeira da Mota, *Topónimos de origem portuguesa na costa ocidental de África, desde o Cabo Bojador ao Cabo de Santa Caterina* (Bissau, 1950), pp. 340–341; and João de Barros, *Da Ásia de João de Barros*, Decade 1, Book 2, Chap. 2 = Vol. 1, pp. 141–151, esp. 145. The earliest map on which the island is named for its discoverer is the so-called “Columbus Map” of c. 1492 (Paris, Bibliothèque nationale de France, Rés. Ge AA. 562), which is accessibly reproduced by Nebenzahl, *Atlas of Columbus*, pp. 22 and 24–25; on this map it is called *ilha de fernão poo*.
- 88 Robert Garfield, “A History of São Tomé Island, 1470–1655,” PhD Dissertation, Northwestern University, 1971, p. 1: “The exact date of discovery is open to question, but the most commonly accepted one is 21 December 1470—St. Thomas’ Day—after whom, in keeping with Portuguese tradition, the island was named. The discoverers, Pero Escobar and João de Santarem, also found on the same voyage the islands of Annobon (1 January 1471) and Príncipe (17 January 1471).” See also Viriato Campos, “Os dias de descobrimento das ilhas de S. Tomé e Príncipe,” *Anais do Clube Militar Naval* 7.9 (1970), pp. 454–483, reprinted in *Elementos de história da ilha de S. Tomé (em comemoração do V centenário do descobrimento)* (Lisbon: Centro de Estudos de Marinha, 1971), pp. 45–69; and Armando Cortesão, *Descobrimento e cartografia das ilhas de S. Tomé e Príncipe* (Coimbra: Junta de Investigações do Ultramar, 1971) = *Agrupamento de Estudos de Cartografia Antiga, Série separata*, 62 (18 pp. and 6 plates).
  - 89 From *Luculentissima* f. 40r: *Hae tres insulae sunt Australes a nobis: & inuentae Anno domini 1484. In his nihil aliud fuit repertum quam desertum sylvarum: & opaca nemorum. Ibi nullum animal: neque hominem: neque quadrupedum. Sed solum aues diuersi generis: nunc vero continue inhabitantur vtriusque sexus hominibus per Portugalenses.*
  - 90 On the *squatina* see Pliny 9.40.78 and 9.67.143; Isidore 12.6.47, who calls it *squatus*; Thomas of Cantimpré, *Liber de natura rerum* 7.76, who calls it *scatina*.
  - 91 The eleven thousand virgins of St. Ursula were said to have sailed in the Atlantic for three years: see T. F. Tout, “The Legend of St. Ursula and the Eleven Thousand Virgins,” in *Historical Essays by Members of the Owens College, Manchester*, ed. T. F. Tout and James Tait (London and New York: Longmans, Green, and Co., 1902), pp. 17–56. For discussion of Brendan’s islands and their cartography see William H. Babcock, “St. Brendan’s Explorations and Islands,” *Geographical Review* 8.1 (1919), pp. 37–46, and Babcock’s *Legendary Islands of the Atlantic: A Study in Medieval Geography* (New York: American Geographical Society, 1922), pp. 34–49.
  - 92 The 1339 Dulcert chart is reproduced in *Cristoforo Colombo e l’apertura degli spazi*, Vol. 1, pp. 164–165, with descriptive text on pp. 162–163; it is reproduced at a larger scale in Gabriel Marcel, *Choix de cartes et de mappemondes des XIVe et XVe siècles* (Paris: E. Leroux, 1896); and in Ramon J. Pujades i Bataller, *Les cartes portolanes: la representació medieval d’una mar solcada* (Barcelona: Institut Cartogràfic de Catalunya, 2007), pp. 120–121 and on the accompanying DVD, number C8.
  - 93 There is a good hand-drawn facsimile of the 1367 Pizzigani chart in Jomard, *Les monuments de la géographie*, nos. 44–49; and a photographic reproduction in *Cristoforo Colombo e l’apertura degli spazi*, Vol. 1 pp. 432–433. There is a good digital reproduction of the chart in Ramon J. Pujades i Bataller, *Les cartes portolanes: la representació medieval d’una mar solcada* (Barcelona: Institut Cartogràfic de Catalunya, 2007), on the accompanying DVD, number C13.
  - 94 For further discussion of the history of the *septem formose insule* see Chet Van Duzer, “Cartographic Invention: The Southern Continent on Vatican MS. Urb. Lat. 274, Folios 73v–74r (c.1530),” *Imago Mundi* 59.2 (2007), pp. 193–222, esp. pp. 198–200.
  - 95 The northern polar regions of Behaim’s globe are illustrated in Fridtjof Nansen, *In Northern Mists; Arctic Exploration in Early Times* (New York: Frederick A. Stokes Co., 1911), Vol. 2, p. 288, as well as in the facsimile in gores that accompanies Ravenstein’s *Martin Behaim*.
  - 96 Although the *Inuentio fortunata* is lost, a summary of the work is preserved in a letter from Gerard Mercator to John Dee dated 1577, which has been edited and translated by E. G. R. Taylor, “A Letter Dated 1577 from Mercator to John Dee,” *Imago Mundi* 13 (1956), pp. 58–68. There are particularly clear representations of the geography of the *Inuentio fortunata*

in an inset on Mercator's world map of 1569, *Nova et Aucta Orbis Terrae Descriptio*, which is reproduced in Nebenzahl, *Atlas of Columbus*, pp. 128–129, and whose relevant legends are transcribed and translated by Taylor, pp. 64–65; and on Mercator's map of the northern polar regions, *Septentrionalium terrarum descriptio* (1595). For a good discussion of the *Inventio fortunata* and its influence see B. F. de Costa, "Arctic Exploration," *Bulletin of the American Geographical Society* 12 (1880), pp. 159–192; and R. A. Skelton et al., *The Vinland Map and the Tartar Relation* (New Haven: Yale University Press, 1965), pp. 179–182.

- 97 In addition to Pomponius Mela 3.5, see Pliny 2.67.170, who gives a shorter account of the same episode, but with more emphasis on its geographical implications. For discussion of the episode see Humphrey Gilbert, *A Discourse written by Sir Humphrey Gilbert Knight, to Proue a Passage by the Northwest to Cathaia, and the East Indies*, in Richard Hakluyt, *The Principal Navigations, Voyages, Traffiques and Discoveries of the English Nation* (Glasgow: J. MacLehose and Sons, 1903–05), Vol. 7, pp. 158–203, esp. Chap. 4, pp. 172–173; J. André, "Des Indiens en Germanie?" *Journal des Savants* 1982, pp. 45–55; and Klaus Tausend, "Inder in Germanien," *Orbis Terrarum* 5 (1999), pp. 115–125. Incidentally the passage in Pomponius Mela is alluded to in a legend in the Atlantic on the Genoese world map of 1457 (Florence, Biblioteca Nazionale Centrale, Portolano 1); for a transcription and translation of the legend see Edward Luther Stevenson, *Genoese World Map, 1457* (New York: American Geographical Society and Hispanic Society of America, 1912), pp. 55–56. There is now a facsimile edition of the map, with a new transcription and translation of the legends by Angelo Cattaneo, in *Mappa mundi 1457* (Rome: Treccani, 2008); for this legend see pp. 194–195.
- 98 I develop this idea in my article "The Cartography, Geography, and Hydrography of the Southern Ring Continent" (see note 10), esp. pp. 125–126.
- 99 *Gronelandia quam & Engronelandiam vocant. Chersonesus est: dependet enim a terra inaccessibili a parte Septentrionis vel ignota propter glatiem. Ibidem est promontorium quod Nadhegrum dicitur: sub gra long. 26. usque ad .31. lati. vero .63.0. Vbi spiritus malignus aereo corpore omnibus visibiliter apparet.* Light is shed on the detail about the malignant spirit by a legend on Andreas Walsperger's world map of 1448, where he mentions demons in Norway, explaining that they are trolls, but he says nothing about them being insubstantial like the *spiritus malignus* mentioned by Schöner: for the legend on Walsperger's map, see Konrad Kretschmer, "Eine neue mittelalterliche Weltkarte der vatikanischen Bibliothek," *Zeitschrift der Gesellschaft für Erdkunde* 26 (1891), pp. 371–406, esp. p. 405; the article is reprinted in *Acta Cartographica* 6 (1969), pp. 237–272. A legend from a large fifteenth-century circular world map closely related to Walsperger's, which legend is transcribed in Munich, Bayerische Staatsbibliothek CLM 14583, f. 277v, is still closer to what we find in Schöner's *Luculentissima*; it reads *Item in regione ista sunt trolli sive cacodemonas servientes hominibus et sunt spiritus*. The legend is transcribed in Dana Bennett Durand, *The Vienna-Klosterneuburg Map Corpus of the Fifteenth Century: A Study in the Transition from Medieval to Modern Science* (Leiden: E.J. Brill, 1952), p. 456, and see similar legends on his pp. 453 and 392. Another map in the same group, namely the *Zeit map* of c. 1470, which is Zeitz, Bibliothek des Kollegiatstiftes Zeitz, MS Lat. Histor. 497, f. 49r, also has a legend in Norway which is close to what we find in Schöner. It runs: *In Norwegia sunt multi trulli, spiritus videlicet qui loquuntur, comedunt, bibunt et percutiunt, nunquam tamen visi sunt*. The *Zeit* map is reproduced in color, and the legends transcribed on pp. 72–77 of the accompanying commentary volume, in Werner Kreuer, *Monumenta cartographica: Tabulae mundi: Essener Bearbeitung von zwölf Tafeln der historischen Kartographie mit zwölf Vollfaksimilierungen* (Essen: Werner Kreuer, 1998).
- 100 See Nordenskiöld, *Facsimile-Atlas*, pp. 49, 54, and 56–57; Axel Anthon Björnbo and Carl Sophus Peterson, *Der Däne Claudius Claussøn Swart (Claudius Clavus): der älteste Kartograph des Nordens, der erste Ptolemäus-Epigon der Renaissance: eine Monographie* (Innsbruck: Wagner, 1909); Joseph Fischer, "Claudius Clavus, the First Cartographer of America," *Historical Records and Studies* 6.1 (1911), pp. 73–101, esp. pp. 97–99; and Heinrich Winter, "The Changing Face of Scandinavia and the Baltic in Cartography up to 1532," *Imago Mundi* 12 (1955), pp. 45–54. Incidentally Schöner cites Claudis Clavus as a source on ff. 22v and 23r of the *Luculentissima*.
- 101 The earliest appearance of northern pygmies on a map is in the toponym *pygmei maritimi* on Claudius Clavus's map of the northern regions of 1427 preserved in Nancy, Bibliothèque

- Municipale, MS 441, map 11; there is a sketch of this map in Fridtjof Nansen, *In Northern Mists; Arctic Exploration in Early Times*, trans. Arthur G. Chater (New York: Frederick A. Stokes, 1911), Vol. 2, p. 248, with some discussion on p. 263; and a color reproduction in Patrick Gautier Dalché, *La géographie de Ptolémée en Occident (IVe–XVIe siècle)* (Turnhout: Brepols, 2009), pp. 414–415. For a later description of these northern pygmies see Olaus Magnus, *Historia de gentibus septentrionalibus: Romae 1555 = Description of the Northern Peoples: Rome 1555*, trans. Peter Fisher and Humphrey Higgins, ed. Peter Foote (London: Hakluyt Society, 1996–), Book 2, Chap. 11.
- 102 On the earlier cartography of Scandinavia see Ernest-Théodore Hamy, “Les origines de la cartographie de l’Europe septentrionale,” *Bulletin de géographie historique et descriptive* (1888), pp. 333–432, reprinted in his *Études historiques et géographiques* (Paris: E. Leroux, 1896), pp. 1–94, and in *Acta Cartographica* 18 (1974), pp. 104–209; and Leonid S. Chekin, “Map-pae mundi and Scandinavia,” *Scandinavian Studies* 65.4 (1993), pp. 487–520.
- 103 From *Luculentissima* f. 18v: *Ex mandato Serenissimi regis huius Emanuelis a Lisibona ad austrum noua terra in aphrica inuenitur: & exinde noua nauitagio in Indiam ad Chalicutiam & auream chersonesus.*
- 104 From *Luculentissima* f. 18v: *Rex inclytus huius Ferdinandus de percepto suo quartam orbis partem fecit disquiri per Americum Vesputium in oceano occidentali: vbi sylvestres omnino reperit homines nudo corpore incedentes.*
- 105 From *Luculentissima* f. 56v: *Vrbs premaxima est ad quam Theuthonici mercatores laboriose perueniunt vbi magnas opes tum in argento tum in preciosis pellibus esse fama est.*
- 106 Ivar Hallberg, *L’Extrême Orient dans la littérature et la cartographie de l’Occident des XIIIe, XIVe, et XVe siècles; étude sur l’histoire de la géographie* (Göteborg: W. Zachrissons boktryckeri a.-b., 1907). See also Konrad Kretschmer, *Die physische Erdkunde im christlichen Mittelalter* (Vienna and Olmütz: E. Hölzel, 1889), pp. 128–133.
- 107 The name “Seven Castles” for Transylvania alludes to the seven fortresses which the descendants of Attila the Hun were said to have built here in the eighth century: see Piero Falchetta, *Fra Mauro’s World Map* (Turnhout: Brepols, 2006), p. 630. On Angelino Dulcert’s chart of 1339 the cartographer has drawn the seven castles representing Transylvania; this detail is reproduced in Krisztina Irás, “Hungary on Two Portolan Charts by Angelino Dulcert (1325/30, 1339),” *Imago Mundi* 59.2 (2007), pp. 223–231, esp. p. 226. The seven castles appear on other maps as well, for example the Vatican Borgia XVI metal *mappamundi* from the first half of the fifteenth century, which is illustrated in Marcel Destombes, *Mappemondes, A.D. 1200–1500* (Amsterdam: N. Israel, 1964), Plate 29.
- 108 From *Luculentissima* f. 19v: *Olim ambae Baleares dictae In eis primitus repertus est vsus fundarum.* Schöner’s text on the Balearics is so short that he omits the reason for which the sling’s invention there is usually mentioned, namely, that the islands got their name (Balearics) from the fame of this invention, by way of the Greek verb βάλλειν, meaning “to throw, to hit.” This etymology is first mentioned by Servius (fourth century A.D.) in his commentary on Vergil, *Georgics* 1.309; it also appears in Isidore 14.6.44 and Vincent de Beauvais, *Speculum naturale*, Book 32, Chap. 21; it was copied from Vincent into the text *De locis ac mirabilibus mundi*, Chap. 21, which was printed in the 1486 Ulm and 1513 Strassburg editions of Ptolemy—the latter of which Schöner owned, though in general he seems to have made little use of the *De locis ac mirabilibus mundi* in connection with his 1515 globe. There is also a legend mentioning that the sling was first invented on “Minorga” (Menorca) on the Hereford *mappamundi* of c. 1285–1310: see Miller, *Mappaemundi*, Vol. 4, p. 21.
- 109 On the Ptolemaic cartography of Corsica see Mario Ascari, “La Corsica nelle carte geografiche di Tolomeo,” *Archivio Storico di Corsica* 16 (1938), pp. 161–191, 331–393, and 499–569.
- 110 The claim that Sicily was once connected with Italy is mentioned for example by Servius in his commentary on Vergil’s *Aeneid* 3.414 = Sallust *Histories* frag. 22, and Isidore 13.18.3 and 14.6.34; for discussion of this idea in various classical authors see Edward Augustus Freeman, *The History of Sicily from the Earliest Times* (Oxford: The Clarendon Press, 1891–94), Vol. 1, Appendix 2, pp. 458–462, “The Breach Between Sicily and Italy.” This tradition is also mentioned by Vincent de Beauvais, *Speculum naturale*, Book 32, Chap. 20; it was copied from Vincent into the text *De locis ac mirabilibus mundi*, Chap. 20, which was printed in the 1486 Ulm and 1513 Strassburg editions of Ptolemy—the latter of which Schöner owned.

- 111 Thucydides 6.2 mentions an old tradition that the Cyclopes had lived on Sicily; this idea is also mentioned by Vincent de Beauvais, *Speculum naturale*, Book 32, Chap. 20; it was copied from Vincent into the text *De locis ac mirabilibus mundi*, Chap. 20, which was printed in the 1486 Ulm and 1513 Strassburg editions of Ptolemy—the latter of which Schöner owned.
- 112 From *Luculentissima* f. 26r: *Corcyra nigra insu. quae hac nuestra vita Corfuna dicitur: in qua olim Pheaces habitabant: ad quos Vlisses venit naufragatus. Hec est principium Graecae: & Rhomani portus munimentum: In hac regnavit Alcinous rex diligens cultor ortorum: est namque ad modum copiosa & fertilis.* For discussion of the Phaeacian episode in the *Odyssey* Books 5–13 see for example E. Dolin, "Odysseus in Phaeacia," *Grazer Beiträge* 1 (1973), pp. 273–282. The identification of Scheria with Corcyra goes back to Thucydides 1.25.4; see A. Shewan, "Scheria-Corcyra," *Classical Philology* 13.4 (1918), pp. 321–334, and 14.2 (1919), pp. 97–107.
- 113 The detail about Crete being the birthplace of music is also mentioned by Silvestri, *De insulis*, pp. 160–161 in Montesdeoca's edition (see note 269); by Fra Mauro in a legend on his map of c. 1450, see Falchetta, *Fra Mauro's World Map*, \*1005, pp. 378–379; and in the early fifteenth-century *Les Merveilles du Monde*—the text of Paris, BnF, MS fr. 1377–1379 is edited in part by Anne-Caroline Beaugendre in *Les merveilles du Monde, ou Les secrets de l'histoire naturelle* (Paris: Bibliothèque nationale de France, 1996), with the passage on Cyprus on p. 32. On this work see the important short article by John Block Friedman, "Secretz de la Nature [*Merveilles du Monde*]," in John Block Friedman and Kristen Mossler Figg, eds., *Trade, Travel and Exploration in the Middle Ages: An Encyclopedia* (New York and London: Garland, 2000), pp. 545–546. The information in the *Luculentissima* about music originating on Cyprus comes from Solinus 11 or Isidore 14.6.16.
- 114 Martellus's world map in the London manuscript of his *Insularium illustratum*, which is conveniently reproduced in Nebenzahl, *Atlas of Columbus*, pp. 16–17, does not have a line indicating the equator, but we can determine the intended position of the equator by noting that in maps of this period, including Martellus's map at Yale, the equator usually ran through the southern part of Taprobane in the Indian Ocean. The legend on the London maps reads: *hec est uera forma moderna affrice secundum descr[i]ptionem Portugalensium Inter mare mediterraneum et oceanum meridionalem.* Martellus's world map in the Leiden MS of his *Insularium* (Leiden, Leiden University Library, MS Voss. Lat. F23, ff. 65v–66r) shows the same revised geography of Africa but lacks the explanatory legend; the map is discussed and illustrated in K. A. Kalkwiek, "Three mappae mundi from the University Library in Leyden," *Janus* 62.1–3 (1975), pp. 17–41, esp. pp. 34–39. The world map in the Florence MS of his *Insularium* (Biblioteca Laurenziana, MS Plut. 29.25, ff. 66v–67r) also shows the corrected geography and lacks the legend; it is illustrated in Sebastiano Gentile, *Firenze e la scoperta dell'America: umanesimo e geografia nel '400 fiorentino* (Florence: L. S. Olschki, 1992), Plate 45.
- 115 The Rosselli map influenced by Martellus in the Biblioteca Nazionale Centrale in Florence is reproduced in *Cristoforo Colombo e l'apertura degli spazi*, Vol. 1, pp. 522–523.
- 116 There are woodcuts of two globes in Schöner's *Luculentissima*, one at the end of the unfoliated introductory section, and the other on f. 16r, and curiously both follow Ptolemy (or Waldseemüller) in their depiction of West Africa rather than Schöner's beliefs as evidenced by his 1515 globe, as they show it extending well south of the equator.
- 117 The full citation of the 1562 edition of Ptolemy is *Geographia Cl. Ptolemaei Alexandrini: olim a Bilibaldo Pirckheimherio traslata, at nunc multis codicibus graecis colata, pluribusque in locis ad pristinam veritatem redacta a Iosepho Moletio mathematico* (Venice: apud Vincentium Valgrisium, 1562), and this edition is available for download via <http://gallica.bnf.fr>
- 118 For discussion of the coastal toponyms of West Africa, particularly on nautical charts, see Sophus Ruge, "Topographische Studien zu den portugiesischen Entdeckungen zu der Küsten Afrikas," *Abhandlungen der Philologisch-Historischen Classe der Königlich-Sächsischen Gesellschaft der Wissenschaften* 20.6 (1903), 110 pp., but there is little intersection between the names Ruge discusses and those on Schöner's globe.
- 119 The first to sail past Cape Bojador, setting aside possible voyages in classical antiquity, especially that of the Carthaginian Hanno c. 500 BC. For discussion of these voyages see Duane W. Roller, *Through the Pillars of Herakles: Greco-Roman Exploration of the Atlantic* (New York and London: Routledge, 2006), pp. 23–25 (on the alleged circumnavigation of Africa by Phoenicians mentioned by Herodotus 4.42), and 29–43 (on Hanno); see also 95–104 (on Ophelas, mentioned by Strabo 2.5.7, and Polybius, mentioned by Pliny 5.1.8–11).

- 120 On the alleged discovery of Cape Bojador by Gil Eanes see Gomes Eanes de Zurara (or Azurara), *Chronica do descobrimento e conquista de Guiné* (completed in 1453), published in Vol. 2 of Antonio J. Dias Dinis, *Vida e obras de Gomes Eanes de Zurara* (Lisbon: Divisão de Publicações e Biblioteca, Agência Geral das Colónias, 1949), Chap. 9, pp. 53–56; the text is translated into English by C. Raymond Beazley and Edgar Prestage as *The Chronicle of the Discovery and Conquest of Guinea* (London: Printed for the Hakluyt Society, 1899), Vol. 1, pp. 32–34. For more on the history of the toponym see A. Teixeira da Mota, *Topónimos de origem portuguesa na costa ocidental de África, desde o Cabo Bojador ao Cabo de Santa Caterina* (Bissau, 1950), pp. 61–63. For discussion of Cape Bojador in the history of the exploration of Africa see William G. L. Randles, “La signification cosmographique du passage du cap Bojador,” *Studia* 8 (1961), pp. 221–256.
- 121 It is often said that the Pizzigani brothers on their nautical chart of 1367 (Parma, Biblioteca Palatina, Carta nautica no. 1612) mark Cape Bojador as *caput finis africae et terrae occidentalis*, (i.e. “cape which is the end of Africa and of the western land”), but this is not quite accurate: although the cape that bears this legend is all but certainly intended to represent Bojador, it is not labeled as such. The legend on the Catalan Atlas about *Cap de Finisterra occidental de Affrica...* (transcribed in *Mapamundi del año 1375*, p. 34) is no doubt intended to describe the *cavo de Buyetder* (i.e. Bojador) a bit to the north, and this confirms that the legend on the Pizzigani map was intended to describe the unnamed Cape Bojador.
- 122 The Catalan Atlas is Paris, Bibliothèque nationale de France, MS Espagnol 30; the legend about Jaume Ferrer’s voyage is transcribed and translated in the commentary volume that accompanies one of the several facsimile editions of the atlas, *Mapamundi del año 1375* (Barcelona: S.A. Ebrisa, 1983), p. 33; a more recent edition is *El món i els dies: L’atles Català* (Barcelona: Enciclopèdia Catalana, 2005); the atlas is also reproduced in Ramon J. Pujades i Bataller, *Les cartes portolanes: la representació medieval d’una mar solcada* (Barcelona: Institut Cartogràfic de Catalunya, 2007), on the accompanying DVD, number C16. On Ferrer’s voyage see Richard Hennig, *Terrae Incognitae* (Leiden: E. J. Brill, 1944–56), Vol. 3, pp. 284–289; G. Llompart i Moragues, “L’identitat de Jaume Ferrer el Navegant (1346),” *Memòries de la Real Acadèmia d’Estudis Històrics, Geneològics i Heràldics de Balears* 10 (2000), pp. 7–20, has documented that this explorer was named Giacomino Ferrario de Casamaveri, and was the son of Genovese who had settled in Mallorca, and that he was related to the cartographer Angelino Dulcert. Incidentally, the anonymous author of the *Libro del Conosçimiento* of c. 1350 claimed to have made a sailing voyage to the Rio de Oro: see *El libro del conocimiento de todos los reinos = The Book of Knowledge of All Kingdoms*, ed. and trans. Nancy F. Marino (Tempe: Arizona Center for Medieval and Renaissance Studies, 1999), Chaps. 77–79, pp. 56–61. See also E.G.R. Taylor, “Pactolus: River of Gold,” *Scottish Geographical Magazine* 44 (1928), pp. 129–144; and George H. T. Kimble, “The ‘ne plus ultra’ of the West African Coast in the Middle Ages,” *The Mariner’s Mirror* 20 (1934), pp. 280–292.
- 123 For the legend on the lost Genoese map see Jacques Paviot, “Une mappemonde génoise disparue de la fin du XIV<sup>e</sup> siècle,” in Gaston Duchet-Suchaux, ed., *L’Iconographie: études sur les rapports entre textes et images dans l’Occident médiéval* (Paris: Le Léopard d’Or, 2001), pp. 69–97, esp. p. 86, no. 82.
- 124 The Meica de Viladestes chart is Paris, Bibliothèque nationale de France, Rés. Ge AA 566; it is illustrated in Michel Mollat and Monique de la Roncière, *Sea Charts of the Early Explorers: 13th to 17th Century*, trans. L. le R. Dethan (New York: Thames and Hudson, 1984), chart 12; and Ramon J. Pujades i Bataller, *Les cartes portolanes: la representació medieval d’una mar solcada* (Barcelona: Institut Cartogràfic de Catalunya, 2007), pp. 202–203 and on the accompanying DVD, number C30.
- 125 On the Atlas Mountains depicted in the shape of a palm tree on nautical charts see Julio Rey Pastor and Ernesto García Camarero, *La Cartografía mallorquina* (Madrid: CSIC, 1960), p. 25.
- 126 See Stevenson, *Marine World Chart*, p. 93.
- 127 For discussion of the toponyms on Portuguese maps from this point south to Cabo da Verga from 1455 to 1507 see A. Teixeira da Mota, *Mar, além mar; estudos e ensaios de história e geografia* (Lisbon: Junta de Investigações do Ultramar, 1972), pp. 121–125; see also his pp. 206–212 and pp. 236–238.

- 128 See Gomes Eanes de Zurara (or Azurara), *Chronica do descobrimento e conquista de Guiné* (completed in 1453), published in Vol. 2 of Antonio J. Dias Dinis, *Vida e obras de Gomes Eanes de Zurara* (Lisbon: Divisão de Publicações e Biblioteca, Agência Geral das Colónias, 1949), Chap. 31, pp. 148–151, esp. 151; the text is translated into English by C. Raymond Beazley and Edgar Prestage as *The Chronicle of the Discovery and Conquest of Guinea* (London: Printed for the Hakluyt Society, 1899), Vol. 1, pp. 98–100. João de Barros, *Da Asia de João de Barros: dos feitos, que os Portuguezes fizeram no descobrimento, e conquista dos mares, e terras do Oriente* (Lisbon: Livraria S. Carlos, 1973–), Decade 1, Book 1, Chap. 9 = Vol. 1, pp. 70–75, esp. 74, says that the cape was discovered by Dinis Fernandes in 1445.
- 129 For discussion of Bianco's 1448 chart see Armando Cortesão, *History of Portuguese Cartography* (Lisbon: Junta de Investigações do Ultramar, 1969–71), Vol. 2, pp. 142–148, replying in part to F. C. Wieder, "L'importance historique du portulan dessiné par Andrea Bianco vénitien à Londres en 1448," *Comptes Rendus du 15me Congrès International de Géographie*, Amsterdam, 1938 (Leiden: Brill, 1938), Vol. 2.4, pp. 199–202, with an English summary in Vol. 2 (rapports), pp. 196–197. Bianco's 1448 chart is reproduced in Theobald Fischer, *Raccolta di mappamondi e carte nautiche del XIII al XVI secolo* (Venice: F. Ongania, 1871–81); Youssouf Kamal, *Monumenta cartographica Africae et Aegypti* (Cairo, 1926–51), Vol. IV, fasc. IV, f. 1942r; and in Ramon J. Pujades i Bataller, *Les cartes portolanes: la representació medieval d'una mar solcada* (Barcelona: Institut Cartogràfic de Catalunya, 2007), on the accompanying DVD, number C46.
- 130 On these and other classical peoples of Inner Africa see E. Schweder, "Die Angaben über die Völker von Innerafrika bei Plinius und Mela," *Philologus* 47 (1889), pp. 636–643, who discusses Pliny *Naturalis Historia* 5.43–46 and Pomponius Mela 1.22–23, 1.43–48, and 3.103.
- 131 On Benincasa's atlas of 1468 see Emiliani, "Le carte nautiche dei Benincasa" (see note 86), no. 10; for more discussion of the toponym *Serra Lyon* see A. Teixeira da Mota, *Topónimos de origem portuguesa na costa ocidental de África, desde o Cabo Bojador ao Cabo de Santa Caterina* (Bissau, 1950), pp. 208–209.
- 132 This chart at the Biblioteca Estense has been reproduced in facsimile with commentary by A. Fontoura da Costa, *Uma carta náutica portuguesa, anónima, de "circa" 1471* (Lisbon: Ministério das Colónias, Divisão de Publicações e Propaganda, Agência Geral das Colónias, 1940); its dating has been more recently discussed (with an illustration of the map) by Alfredo Pinheiro Marques, "The Dating of the Oldest Portuguese Charts," *Imago Mundi* 41 (1989), pp. 87–97, esp. 87–90. It has now been published in facsimile as *Portolano CGA5c: Carta nautica delle coste atlantiche, 1472* (Modena: Il Bulino Edizioni d'Arte, 2004), and a high-resolution digital image of the map has been published on the CD-ROM titled *Antichi planisferi e portolani: Modena, Biblioteca Estense Universitaria* (Modena: Il Bulino; and Milan: Y. Press, 2004).
- 133 W.F.G. Lacroix, *Africa in Antiquity: A Linguistic and Toponymic Analysis of Ptolemy's Map of Africa, Together with a Discussion of Ophir, Punt and Hanno's Voyage* (Saarbrücken, Germany: Verlag für Entwicklungspolitik, 1998), pp. 211–213, has some remarks on this river.
- 134 The history of the toponym *tres pontas* is traced by A. Teixeira da Mota, *Topónimos de origem portuguesa na costa ocidental de África, desde o Cabo Bojador ao Cabo de Santa Caterina* (Bissau, 1950), pp. 272–273.
- 135 On the Castello de Mina see John Vogt, *Portuguese Rule on the Gold Coast, 1469–1682* (Athens: University of Georgia Press, 1979); J. Bato'ora Ballong-Wen-Mewuda, *São Jorge da Mina, 1482–1637: la vie d'un comptoir portugais en Afrique occidentale* (Lisbon: Fondation Calouste Gulbenkian, Centre culturel portugais, 1993); and P.E.H. Hair, *The Founding of the Castelo de São Jorge da Mina: An Analysis of Sources* (Madison: African Studies Program, University of Wisconsin, 1994).
- 136 The legend about Elmina Castle on the Cantino map is transcribed and translated in *Portugaliae monumenta cartographica* Vol. 1, p. 12: "...donde traçem ao muyto escelente principe dom manuell Rey de portugall cada anno doze carauelas com ouro tñaze cada caravera hua cõ outra XXV mijll pesos douro val cada pesse quinhentos rreaes z mais traem muytos escavos z pimento z outras cousas de muyto proueito." "...whence they bring to the most excellent prince Dom Manuel King of Portugal in each year twelve caravels with gold; each caravel brings twenty-five thousand weights of gold, each weight being worth five hundred reais, and they further bring many slaves and pepper and other things of much profit."



- 137 See Inácio Guerreiro, *A carta náutica de Jorge de Aguiar de 1492* (Lisbon: Academia de Marinha and Edições Inapa, 1992). The chart is also discussed and illustrated in Alfredo Pinheiro Marques, "The Dating of the Oldest Portuguese Charts," *Imago Mundi* 41 (1989), pp. 87–97, esp. pp. 93–95; the map is New Haven, Yale University, Beinecke Rare Book and Manuscript Library, 30cea/1492, and a high-resolution image of it is available on the Library's internet site. A toponym referring to the mine, but not to the castle, first appears (*a mina doiro*) on the c. 1471 nautical chart in Modena which I just mentioned; see Mota, *Topónimos de origem portuguesa*, pp. 274–276.
- 138 On the basilisk see Isidore *Etymologiae* 12.4.6–9, and R. McN. Alexander, "The Evolution of the Basilisk," *Greece & Rome* 10.2 (1963), pp. 170–181.
- 139 A legend similar to Waldseemüller's appears in Egypt on Angelino Dulcert's chart of 1339: *Egiptus. Nota quod Egiptus habet deserta mala in quibus sunt multa animalia monstrosa. Ibi pardi, tigrides, basilischi, aspidēs et serpentes oribiles et elefantes*. Similar legends appear on Angelino Dalorto's chart of 1325/30 (Florence, Archivio Corsini) and the Pizzigani map of 1367 (Parma, Biblioteca Palatina, Carta nautica no. 1612); the legend on the latter map is transcribed in Mario Longhena, "La carta dei Pizigano del 1367 (posseduta dalla Biblioteca Palatina di Parma)," *Archivio storico per le province Parmensi*, series 4, Vol. 5 (1953), pp. 25–130, esp. pp. 81–82. Given the distance between Egypt and the location of the similar legend in Central Africa on Waldseemüller's map, it is difficult to know whether the legends on the nautical charts were the source of the latter. Incidentally the Dalorto chart is reproduced in *The Portolan chart of Angelino de Dalorto, MCCCXXV, in the collection of Prince Corsini at Florence* (London: Royal Geographical Society, 1929), and in Ramon J. Pujades i Bataller, *Les cartes portolanes: la representació medieval d'una mar solcada* (Barcelona: Institut Cartogràfic de Catalunya, 2007), pp. 114–115 and on the accompanying DVD, number C7.
- 140 From *Luculentissima* f. 36v: *Mons Lunae maximus: vbi Nili fluminis dicuntur esse fontes totius orbis vulgatissimi: quod omnem aphricam ab aethiopia secernit: & plurimas insulas faciens: Venit ad eam clarissimam Meroen: a dextris eius nominatus Astampus: in amplissimos lacus effunditur: deinque diuisus atque vagus aliis etiam alueis varie separatis: in septem postremo totis diuisis partibus omnem aegyptum irrigat annuo incremento. Et demum aegyptiaco mari per septem ingentia miscetur ostia Sunt propterea alia flumina principaliora huius: quae suis locis enumerantur*.
- 141 From *Luculentissima* f. 38v: *Blemnes Capita non habent: sed os & oculus habent pectori insitos*. For discussion of the Blemmyae in classical sources see Robert Updegraff, "A Study of the Blemmyes," PhD Dissertation, Brandeis University, 1978. See Solinus 31.5 and Isidore 11.3.17, and on the Blemmyae in medieval sources see John Block Friedman, *The Monstrous Races in Medieval Art and Thought* (Cambridge, MA, and London: Harvard University Press, 1981; reprinted with expanded bibliography Syracuse: Syracuse University Press, 2000); and Asa Mittman, *Maps and Monsters in Medieval England* (New York: Routledge, 2006), pp. 85–106 passim; and Hallberg, *L'Extrême Orient*, pp. 78–79. The Blemmyae are depicted in Ethiopia in Paris, BnF, MS Fr. 22971, f. 20r, *Les Merveilles du Monde*, c. 1480, and this illustration is reproduced in Anne-Caroline Beaugendre, *Les merveilles du Monde, ou Les secrets de l'histoire naturelle* (Paris: Bibliothèque nationale de France, 1996), p. 32; and in New York, Pierpont Morgan Library MS M. 461, f. 26v, illustrated in Beaugendre, p. 84.
- 142 On the Blemmyae on the Hereford map see Scott D. Westrem, *The Hereford Map: A Transcription and Translation of the Legends with Commentary* (Turnhout: Brepols, 2001), pp. 382–383, no. 971. The Psalter map is London, British Library Add. MS 28681, f. 9r; for discussion see Konrad Miller, *Mappaemundi: Die ältesten Weltkarten* (Stuttgart: J. Roth, 1895–98), Vol. 3, pp. 37–43.
- 143 From *Luculentissima* f. 38v: *Aethiopia sub aegypto plurimas habet gentes diuerso vultu & monstrosa facie horribiles: ferarum quoque & serpentum multitudine est repleta. Illic quoque Rhinoceronta bestia: Cameleon & Basiliscus: Dracones ingentes: ex quorum capite gemme extrahuntur hiacynthus & chrysopassus ac Topasius. & aliae gemmae plurimae*. On precious stones in serpents' heads see for example Albertus Magnus, *Mineralium* 2.2.4 on the stone *draconites* which is removed from the heads of dragons, in Albertus Magnus, *Opera omnia* (Paris: Ludovicum Vivès, 1890–95), Vol. 5, p. 35; on this same stone see the *Hortus sanitatis*, "De lapidibus," Chap. 47; more generally see Leo J. Henkin, "The Carbuncle in the Adder's Head," *Modern Language Notes* 58.1 (1943), pp. 34–39. Fra Mauro places such serpents in Afghanistan: see Falchetta, *Fra Mauro's World Map*, \*1457, pp. 462–463. There is an illustration of Ethiopia

- with serpents and exotic creatures in the manuscript of *Les Merveilles du Monde* which is Paris, BnF, MS fr. 22971, which is reproduced by Anne-Caroline Beaugendre in *Les merveilles du Monde, ou Les secrets de l'histoire naturelle* (Paris: Bibliothèque nationale de France, 1996), p. 32; in the manuscript of this same work which is New York, Morgan Library MS M. 461, f. 26v, reproduced by Beaugendre, p. 84, more monstrous races are represented.
- 144 The most important text on the Three Wise Men is John of Hildesheim's fourteenth-century *Historia trium regnum*; this edition includes the Latin text: John of Hildesheim, *The Three Kings of Cologne: An Early English Translation of the "Historia trium regum" by John of Hildesheim*, ed. C. Horstmann (London: Published for the Early English Text Society by N. Trübner & Co., 1886) = EETS 85. See also A. V. Williams Jackson, "The Magi in Marco Polo and the Cities in Persia from Which They Came to Worship the Infant Christ," *Journal of the American Oriental Society* 26 (1905), pp. 79–83 (Schöner was clearly not using Marco Polo as his source for the homelands of the Wise Men); and Sylvia Harris, "The *Historia trium regum* and the Mediaeval Legend of the Magi in Germany," *Medium aevum* 28 (1959), pp. 23–30.
- 145 Dulcert's map is conveniently reproduced in *Cristoforo Colombo e l'apertura degli spazi*, Vol. 1, pp. 164–165, with descriptive text on pp. 162–163; the Catalan Atlas is Paris, Bibliothèque nationale de France, MS Espagnol 30, and is reproduced in facsimile in *Mapamundi del año 1375* (Barcelona: S.A. Ebrisa, 1983) and other editions; Valseca's 1439 chart, which is Barcelona, Museu Marítim de Barcelona, MMB 3236, is reproduced in *Cristoforo Colombo e l'apertura degli spazi*, Vol. 1, p. 435, and in Ramon J. Pujades i Bataller, *Les cartes portolanes: la representació medieval d'una mar solcada* (Barcelona: Institut Cartogràfic de Catalunya, 2007), pp. 264–265 and on the accompanying DVD, number C40, and has now been published in facsimile as Gabriel de Valseca, *Carta náutica* (Barcelona: Lumenartis, 2008), with a volume of commentary by Ramon J. Pujades i Bataller, *La carta de Gabriel de Vallseca de 1439* (Barcelona: Lumenartis, 2009). Juan de la Cosa's map reproduced in Nebenzahl, *Atlas of Columbus*, pp. 32–33, and in *Cristoforo Colombo e l'apertura degli spazi*, Vol. 1, pp. 528–529, with descriptive text on pp. 526–527.
- 146 Behaim's legend about this Wise Man is transcribed and translated by Ravenstein, *Martin Behaim*, p. 96: *das konikreich der heiligen drei konik einer von saba*—"The kingdom of one of the Three Holy Kings, him of Saba." For additional discussion of the lands from which the Three Wise Men were thought to have come see A.V. Williams Jackson, "The Magi in Marco Polo and the Cities in Persia from which they came to Worship the Infant Christ," *Journal of the American Oriental Society* 26 (1905), pp. 79–83.
- 147 From Luculentissima f. 39r: *Habesch regnum ex utraque parte Nili flu. cuius rex & populus christianam profitentur fidem. Sunt sub dominio presbyteri Ioannis Indiae*.
- 148 The legend on Waldseemüller's *Carta marina* runs: *Regnum Habesch et Habacci Presbiteri Joh. sive India Maior Ethiopie. Hic dominatur ille potentissimus rex quem nos vocamus presbiterem johannem dominum indie maioris cuius dominiam Egyptio mari robro et regno milindarum clauditur. Suntque omnes cristiani abasini Conficiunt sub utraque speae circumcisionemque observant. Baptisantur aqua et igne eciam infantibus sacramenta administrant*.
- 149 The earliest map to locate Prester John in Africa is that of Angelino Dulcert (1339). On the transfer of Prester John from Asia to Africa see J. Richard, "L'Extrême-Orient Légendaire au Moyen Âge: Roi David et Prêtre Jean," *Annales d'Éthiopie* 12 (1957), pp. 225–244; Bernard Hamilton, "Continental Drift: Prester John's Progress through the Indies," in Charles F. Beckingham and Bernard Hamilton, eds., *Prester John, the Mongols, and the Ten Lost Tribes* (Aldershot, Hampshire; and Brookfield, VT: Variorum, 1996), pp. 237–269; Francesc Relaño, *The Shaping of Africa: Cosmographic Discourse and Cartographic Science in Late Medieval and Early Modern Europe* (Burlington, VT, and Aldershot, UK: Ashgate, 2001), pp. 51–72; and Manuel João Ramos, *Essays in Christian Mythology: The Metamorphosis of Prester John* (Lanham, MD: University Press of America, 2006), pp. 106–116.
- 150 For discussion of the pygmies see Antoine Banier, "Dissertation sur les Pygmées," *Mémoires de l'Académie Royale des Inscriptions et Belles-Lettres* 5 (1729), pp. 101–116; Giacomo Leopardi, *Saggio sopra gli errori popolari degli antichi*, ed. Giovanni Battista Bronzini (Venosa, Potenza: Osanna Venosa, 1997), Chap 15, pp. 228–234, which is also printed in Jules Berger de Xivrey, *Traditions tératologiques* (Geneva: Slatkine Reprints, 1978), pp. 102–108; and P. Monceaux, "La légende des Pygmées et les Nains de l'Afrique équatoriale," *Revue historique* (Paris) 47.1 (1891), pp. 1–64.

- 151 Transcribed and translated in *Portugaliae monumenta cartographica*, Vol. 1, p. 12.
- 152 For discussion of these hypothetical lakes see Pliny 5.9.51–54, Solinus 32.2, Orosius 1.2, and John K. Wright, *The Geographical Lore of the Time of the Crusades* (New York: American Geographical Society, 1925), pp. 304–306. On the Renaissance cartography of these lakes see Francesc Relano, *Paludes Nili: la persistencia de las ideas ptolemaicas en la cartografía renacentista* (Barcelona: Facultad de Geografía i Historia, Cátedra de Geografía Humana, 1992) = *Geo-Crítica* 96.
- 153 Transcribed and translated in *Portugaliae monumenta cartographica*, Vol. 1, p. 12: *Aquj he o Rey de magnicongo o quall Rey mando Rogar ao Rey don Juã que de tem que mandasse la freires porque elle se queria tornar christam z el Rey os mandou certos frades da hordem dos pedricadores z el Rey z la Reyna se tor...am xraos z os multos dos de seu Reyno daqui z este Rey trata com os da ilha de santo thome z dam escravos por cousas de pouco preço*—"Here is the King of Manicongo, who sent to beseech King Dom João, whom God may keep, that he should send there friars, because he wanted to become a Christian, and the King sent certain friars of the Order of Preachers, and the King and Queen as well as many of their kingdom hence became Christians; this King trades with those who are in the island of S. Tomé, and they give slaves for things of little value."
- 154 See Stevenson, *Marine World Chart*, p. 102; and E. G. Ravenstein, "The Voyages of Diogo Cão and Bartholomeu Dias, 1482–88," *Geographical Journal* 16.6 (1900), pp. 625–655, esp. p. 652 s.v. "Rio Poderoso." Perhaps the earliest map to show the western coast of Africa this far south is British Library Egerton MS 73 (the "Cornaro Atlas"), f. 63v (chart 33) of c. 1489, which map is reproduced in Youssouf Kamal, *Monumenta cartographica Africae et Aegypti* (Cairo, 1926–51), Vol. 5, fasc. 1, f. 1512; for discussion see Armando Cortesão, *History of Portuguese Cartography* (Lisbon: Junta de Investigações do Ultramar, 1969–71), pp. 195–201.
- 155 The Henricus Martellus map in question is that in his *Insularium Illustratum*, London, British Library Add. MS 15760, ff. 68v–69r, conveniently reproduced in Nebenzahl, *Atlas of Columbus*, pp. 16–17; Ravenstein, "The Voyages of Diogo Cão" (see note 154) indicates the C. S. Laurenci on his tracing of the map; for the name on the Cantino map see Ravenstein's tracing of it and also Stevenson, *Marine World Chart*, p. 102.
- 156 For discussion of the Mountains of the Moon see T. Langenmaier, "Alte Kenntnis und Kartographie der Zentral-afrikanischen Seeregion," *Mitteilungen der Geographischen Gesellschaft in München* 11 (1916), pp. 1–144, esp. pp. 27–34; Therese Perrot, "Der westliche ptolemäische Nilquellsee und das ptolemäische Mondgebirge," *Petermanns Mitteilungen* 64 (1918), pp. 24–26; W. G. L. Randles, "South-East Africa as Shown on Selected Printed Maps of the Sixteenth Century," *Imago Mundi* 13 (1956), pp. 69–88, esp. pp. 75–77; and Relano, *The Shaping of Africa*, pp. 197–204.
- 157 Transcribed and translated in *Portugaliae monumenta cartographica*, Vol. 1, p. 12: *Qujllua—El Rey desta çidade he Rey muyto nobre z senhorea tuda esta costa .s. daqui Fasta çafalla he senhor de moçambique z de çafalla he muyto abondosso douro z de outras cousas*—"Kilwa: The King of this city is a very noble King and rules all this coast, to wit, from here to Sofala; it is very abundant in gold and other things." The article by A. Teixeira da Mota, "Cartografia antiga de Sofala," *Monumenta* (Comissão dos Monumentos Nacionais de Moçambique) 9 (1973), pp. 5–18, also published as offprint 87 (1973) by the Centro de Estudos de Cartografia Antiga, covers maps of the city dating from 1560 onwards.
- 158 The "King-Hamy" map is San Marino, Huntington Library HM 45. An excellent high-resolution image of this map is available though the online catalog of the Huntington Library; it is also illustrated in A. E. Nordenskiöld, *Periplus: An Essay on the Early History of Charts and Sailing-Directions* (Stockholm: Norstedt, 1897; New York: B. Franklin, 1967), Plate 45. For discussion of the map see E. T. Hamy, "Notice sur une mappemonde portugaise anonyme de 1502 récemment découverte à Londres," *Bulletin de géographie historique et descriptive* 1 (1886), pp. 147–160, reprinted in his *Études historiques et géographiques* (Paris: E. Leroux, 1896), pp. 131–144, and in *Acta Cartographica* 1 (1967), pp. 182–196.
- 159 The legend on Waldseemüller's 1507 map which is similar to the descriptions of Zafala on the Cantino and Caverio maps: *hic habetur multa habundancia de auro quam de alio metallo*—"Here there is a great abundance of gold, [more] than of other metal."
- 160 The legend on the Cantino map is in *Portugaliae monumenta cartographica*, Vol. 1, p. 12: *Çaffalla—aqui he a mjna douro em que ay muyta abũdica delle mais quem em outra ninhua parte*

z he descoberta por el Rey de Portugall—"Sofala: Here is the gold mine in which there is plenty of it, more than anywhere else, and is discovered by the King of Portugal." For a mid-sixteenth-century description of Sofala see João de Barros, *Da Asia de João de Barros: dos feitos, que os Portuguezes fizeram no descubrimento, e conquista dos mares, e terras do Oriente* (Lisbon: Livraria S. Carlos, 1973–), Decade 1, Book 10, Chap. 1 = Vol. 2, pp. 372–388.

161 See Ravenstein, *Martin Behaim*, p. 104.

162 On the *Egyptus Novelo* map see Laura Mannoni, *Una carta italiana del bacino del Nilo e dell'Etiopia del secolo XV* (Rome: s.n., 1932) = Pubblicazioni dell'Istituto di geografia della R. Università di Roma, Ser. B, num. 1. There is a tracing of the map in O.G.S. Crawford, "Some Medieval Theories about the Nile," *Geographical Journal* 114 (1949), pp. 6–23, esp. p. 10, with discussion pp. 8–19; and a reproduction of the map in W. G. L. Randles, "South-East Africa" (see note 156), between pp. 69 and 70, with discussion pp. 73–76. See also Bertrand Hirsch, "Cartographie et itinéraires: Figures occidentales du nord de l'Éthiopie aux XVe et XVIe siècles," *Abbay* 13 (1986) pp. 91–122; and Bertrand Hirsch, "Les sources de la cartographie occidentale de l'Éthiopie (1450–1550): les régions du lac Tana," *Bulletin des Études Africaines de l'INALCO* 7.13–14 (1987), pp. 203–236.

163 All three manuscripts are described by Louis Duval-Arnould, "Les manuscrits de la Géographie de Ptolémée issus de l'atelier de Piero del Massaio (Florence, 1469–vers 1478)," in Didier Marcotte, ed., *Humanisme et culture géographique à l'époque du Concile de Constance autour de Guillaume Fillastre: Actes du Colloque de l'Université de Reims, 18–19 novembre 1999* (Turnhout: Brepols, 2002) (= *Terrarum Orbis*, 3), pp. 227–244. BAV MS Urb. Lat. 277 has been published in facsimile as *Codex Urb. Lat. 277: La cosmografia de Claudius Ptolomeus: transcrita entre los años 1472 y 1473* (Madrid: Encuentro, 1983) in the series *Codices e Vaticani selecti, quam simillime expressi iussu Ionnis Pauli PP II, consilio et opera curatorum Bibliothecae Vaticanae*, 53, with a commentary volume by Arthur Dürst. The *Descriptio Egypti Nova* map in this MS is briefly described by Dürst in p. 68 of his commentary. The maps in Paris, BnF, MS Lat. 4802 are reproduced in facsimile in *Géographie de Ptolémée: traduction latine de Jacopo d'Angiolo de Florence; reproduction réduite des cartes et plans du manuscrit latin 4802 de la Bibliothèque nationale*, ed. Henri Auguste Omont (Paris: Catala frères, 1926), where the *Egyptus Novelo* map is on Plates 64–65.

164 For discussion of the *sacaff lacus* see Alphonse Jules Wauters, "L'Afrique centrale en 1522. Le lac Sacaf d'après Martin Hylacomilus et Gerard Mercator," *Bulletin de la Société Belge de Géographie* (1878–79), pp. 94–131; P. Brucker, "L'Afrique centrale des cartes du XVIe siècle," *Études religieuses, philosophiques, historiques et littéraires* 5.4 (1880), pp. 559–586; Randles, "South-East Africa" (see note 156), pp. 72, 80, 83, and 86–87; and Relaño, *The Shaping of Africa*, pp. 201–202.

165 See Ravenstein, "The Voyages of Diogo Cão" (see note 154), p. 636 and also p. 653, s.v. "Golfo or Angra de Aldeas."

166 See Stevenson, *Marine World Chart*, p. 108.

167 *The Book of Ser Marco Polo, the Venetian: Concerning the Kingdoms and Marvels of the East*, transl. and ed. Henry Yule (third ed., London: J. Murray, 1903).

168 See Stevenson, *Marine World Chart*, p. 106; and see Ravenstein, "The Voyages of Diogo Cão" (see note 154), p. 655.

169 For discussion of the influence of Bartholomeu Dias's 1488 voyage around the Cape of Good Hope on European cartography of the late fifteenth and early sixteenth centuries see Inácio Guerreiro, "A viagem de Bartolomeu Dias e os seus reflexos na cartografia europeia coeva," in *1492 dos mundos: paralelismos y convergencias: XII coloquio internacional de historia del arte* (Mexico City: Universidad Nacional Autónoma de México, 1991), pp. 11–23. See also Günther Hamann, *Der Eintritt der südlichen Hemisphäre in die europäische Geschichte. Die Erschliessung des Afrikaweges nach Asien vom Zeitalter Heinrichs des Seefahrers bis zu Vasco da Gama* (Vienna: Graz; and Cologne: Böhlau in Kommission, 1968), pp. 263–350; and W.G.L. Randles, "Bartolomeu Dias and the Discovery of the South-East Passage Linking the Atlantic to the Indian Ocean (1488)," *Revista da Universidade de Coimbra* 34 (1988), pp. 19–28 = Centro de Estudos de História e Cartografia Antiga, Série separatas 188.

170 Some discussion of the division between Europe and Asia is provided by F. G. Hahn, "Zur Geschichte der Grenze zwischen Europa und Asien," *Mitteilungen des Vereins für Erdkunde zu*

- Leipzig (1881), pp. 83–104; and W. H. Parker, "Europe—How Far?" *The Geographical Journal* 126.3 (1960), pp. 278–297.
- 171 There is a good discussion of Greek ideas about the Black Sea in Stephanie West, "The Most Marvellous of all Seas': The Greek Encounter with the Euxine," *Greece and Rome* 50.2 (2003), pp. 151–167.
- 172 From *Luculentissima* f. 46r: *Albania regio magnae Tartariae portio: a calore* [he means *colore*] *populi est nuncupata: eo quod albo crine nascantur: habent oculos glaucos in pupilla: adeo ut melius nocte videant quam de die. Est frigida deserta & inculta regio: Canes ingentes & corpore tan feroces gignit tauros atque leones praementes.* On the dogs of the Albanians see Strabo 15.1.31, Pliny 8.149–150, Solinus 15.6–8, and Isidore 14.3.34. A fragment of a Catalan nautical chart in Istanbul (Topkapi Sarayı, H. 1828) of c. 1375–1380 represents a dog fighting a lion in Albania, as does Mecia de Viladestes in his nautical chart of 1413 (Paris, Bibliothèque nationale de France, Rés. Ge AA 566). The Istanbul fragment is reproduced by Youssouf Kamal, *Monumenta cartographica Africae et Aegypti* (Cairo, 1926–51), Vol. IV, fasc. IV, ff. 1456v–1457r; and is reproduced and discussed by M. Destombes, "Fragments of Two Medieval World Maps at the Topkapu Saray Library," *Imago Mundi* 12 (1955), pp. 150–152. The Mecia de Viladestes chart is reproduced in Michel Mollat and Monique de la Roncière, *Sea Charts of the Early Explorers: 13th to 17th Century*, trans. L. le R. Dethan (New York: Thames and Hudson, 1984), chart 12. Incidentally, Schöner's description of Albania in the *Luculentissima* is quite similar to that in the relevant legend in the Catalan Estense map of c. 1460 (Modena, Biblioteca Estense Universitaria, C.G.A.1.); see Konrad Kretschmer, "Die katalanische Weltkarte der Biblioteca Estense zu Modena," *Zeitschrift der Gesellschaft für Erdkunde zu Berlin* 32 (1897), pp. 65–111 and 191–218, esp. p. 208; reprinted in *Acta Cartographica* 2 (1968), pp. 358–432. The detail about the eyes of the Albanians comes from Solinus 15.5 or Pliny 7.2.12.
- 173 See Alvaro Barbieri, ed., *Milione: redazione latina del manoscritto Z* (Milan: Fondazione Pietro Bembo, 1998), p. 510; and *The Book of Ser Marco Polo, the Venetian: Concerning the Kingdoms and Marvels of the East*, transl. and ed. Henry Yule (3rd ed., London: J. Murray, 1903), Vol. 2, p. 479.
- 174 See Hermann Stadler, ed., *Albertus Magnus, De animalibus libri XXVI, nach der Cölner Urschrift* (Münster: Aschendorff, 1916) = Beiträge zur Geschichte der Philosophie des Mittelalters, Vol. 15–16, Vol. 2, p. 1267.
- 175 The bears are mentioned in the legend on Norvegia on the nautical chart of 1325/30 by Angelino Dalorto (in the Archivio Corsini, Florence); in the legend near the city Alogia (= Ålesund?) in Norway on Angelino Dulcert's map of 1339 (Bibliothèque nationale de France, Rés. Ge B. 696 Rés); and in the legend on Norvegia on the Catalan Atlas of 1375 (Bibliothèque nationale de France, MS Espagnol 30). See Alberto Magnaghi, "Il mappamondo del genovese Angellinus de Dalorto (1325): contributo alla storia della cartografia medioevale," *Atti del terzo Congresso geografico italiano, tenuto in Firenze, dal 12 al 17 aprile 1898* (Florence: M. Ricci, 1899), Vol. 2, pp. 506–543, esp. p. 510; Ernest-Théodore Hamy, "La mappemonde d'Angelino Dulcert, de Majorque (1339)," in his *Études historiques et géographiques* (Paris, E. Leroux, 1896), pp. 419–428, esp. pp. 419–420; and *Mapamundi del año 1375 de Cresques Abraham y Jafuda Cresques* (Barcelona: Ebrisa, 1983), p. 37, respectively.
- 176 Bianco's atlas is Venice, Biblioteca Nazionale Marciana, MS It. Z 76 (4783), and has been reproduced in facsimile in Andrea Bianco, *Atlante nautico 1436*, ed. Piero Falchetta (Venice: Arsenale Ed., 1993); and reproduced digitally in Ramon J. Pujades i Bataller, *Les cartes portolanes: la representació medieval d'una mar solcada* (Barcelona: Institut Cartogràfic de Catalunya, 2007), on the accompanying DVD, number A18. The *mappamundi* in this atlas is reproduced in a hand-drawn facsimile in Nordenskiöld, *Periplus*, p. 19. The toponyms and legends are transcribed by Manuel Francisco de Barros Santarém, *Essai sur l'histoire de la cosmographie et de la cartographie pendant le Moyen-âge* (Paris: Maulde et Renou, 1849–52), Vol. 3, pp. 366–398; and Miller, *Mappaemundi*, Vol. 3, pp. 143–145.
- 177 On the names of the Caspian see Alessandro Ronconi, "Per l'onomastica antica dei mari," *Studi Italiani di Filologia Classica* 9 (1931), pp. 193–242 and 257–331, esp. pp. 326–331; for a general account of it in classical sources see *Paulys Real-Encyclopädie der classischen Altertumswissenschaft*, Vol. 10, cols. 2275–2290, s.v. "Kaspisches Meer"; on the history of car-

- tographic depictions of the Caspian, see Leo Bagrow, *Materialy k istoriceskomu obzoru kart Kaspijskago Morja* (Saint Petersburg: Tip. Morskogo ministerstva, 1912).
- 178 *Hyrcania regio aspera syluis est & copiosa feris immanibus: Tigribusque & pardis Gignit etiam aues que Hyrcane dicuntur: quorum pennae noctu perlucet. In ea vitem vini metretam ferre dicunt Ficulneam ficorum modios .60. Triticum de lapso e culmis fructu denuo renasci. In arboribus apes operari: & mella de frondibus fluere: Haec Strabo.* The beginning of the text is from Isidore 14.3.33; the part about the bird is from Isidore 14.4.4; the passage in Strabo is 2.1.14.
- 179 Waldseemüller's legend runs: *hic pistrix reperitur mire magnitudinis habitat in cavernas iaciens spinas in uenatores et canes.*
- 180 The main part of Thomas of Cantimpré's text runs: *Istrix, ut dicit Solinus, bestia est que vulgo apud nos porcus spinosus dicitur. Hoc animal circa marina habitat; in cavernis vero montium non nunquam, quando scilicet iuxta marina refugium non habet. Sicut Plinius dicit, hybernis mensibus producit, estate latet. In terra et in aqua potenter valet. Huic bestie terga iaculis hispida sunt, quibus iaculis plerumque laxatis iaculatione voluntaria canes vel homines vulneret proximates.*—"The porcupine, according to Solinus, is the animal that is commonly called the prickly pig. It lives near water, but when it cannot find a place of refuge near water, it hides in caves in the mountains. As Pliny says, it comes out during the winter months, but hides during the summer. It is powerful both on land and in water. The backs of these animals are covered with quills that are usually relaxed, but which they can shoot so as to wound men and dogs who are pursuing them." I have modified the translation from that in Thomas of Cantimpré, *De natura rerum* (lib. IV–XII), ed. Luis García Ballester (Granada: Universidad de Granada, 1973–74), Vol. 2, p. 263.
- 181 Incidentally the porcupine hunt mentioned in Marco Polo is illustrated in Paris, Bibliothèque Nationale de France, MS français 2810, f. 18r. Paris, BnF, MS français 2810 is a famous, richly illustrated manuscript of Marco Polo's *Livre des merveilles* and of John Mandeville's *Travels*; the manuscript was produced in the early fifteenth century for John the Fearless, Duke of Burgundy. The illustrations in this manuscript are reproduced in black and white in Henri Omont, ed., *Livre des merveilles, Marco Polo, Odoric Pordenone, Mandeville, Hayton, etc.* (Paris: Berthaud, 1907); all of the illustrations of Polo (ff. 1–96) have been reproduced in a more recent facsimile, Marco Polo, *Das Buch der Wunder = Le livre des merveilles* (Luzern: Faksimile Verlag, 1995), which is accompanied by a volume of commentary; all of the illustrations of Polo are more accessibly reproduced in Marie-Thérèse Gousset, ed., *Le Livre des merveilles du monde* (Paris: Bibliothèque de l'image, 2002), where the illustration of the porcupine hunt is on p. 33. For general discussion of the illustrations in this manuscript and their relationship with Polo's text see Rudolf Wittkower, "Marco Polo and the Pictorial Tradition of the Marvels of the East," in *Oriente Poliano: Studi e conferenze tenute all'Is. M. E. O. in occasione del VII centenario della nascita di Marco Polo (1254–1954)* (Rome: Istituto Italiano per il Medio e Estremo Oriente, 1957), pp. 155–172.
- 182 From *Luculentissima* f. 50r: *Sogdiana regio producit arbores maximas: sub cuius vnus umbra plusquam .300. homines stare valent: quorum vnum folium quattuor pedum longitudine metietur. super haec folia Philosophi primitus scripserunt. Vnde & haec arbor Papyrus dicitur: & adhuc hodie nomen hoc retinent cartulae que fiunt ex lintheis contritis quibus modo vtimur: quorum inuentor Alexander magnus fertur fuisse.*
- 183 On Ptolemy's description of the region see J. Markwart, "Die Sogdiana des Ptolemaeus," *Orientalia* 15 (1946), pp. 123–149 and 286–323.
- 184 In Yule's translation in *The Book of Ser Marco Polo* these passages are at Vol. 2, pp. 484–485, and Vol. 1, p. 269, respectively.
- 185 The Martellus map in the British Library is conveniently reproduced in Nebenzahl, *Atlas of Columbus*, pp. 16–17.
- 186 Walsperger's map is Biblioteca Apostolica Vaticana MS Pal. Lat. 1362 B; see Konrad Kretschmer, "Eine neue mittelalterliche Weltkarte der vatikanischen Bibliothek," *Zeitschrift der Gesellschaft für Erdkunde* 26 (1891), pp. 371–406 and Plate 10 (reprinted in *Acta Cartographica* 6 [1969], pp. 237–272), esp. p. 397. This article includes a large reproduction of the map. There is also a facsimile of the map: *Weltkarte des Andreas Walsperger* (Zurich: Chr. Belser AG, 1981).

- 187 The Henricus Martellus map is in his *Insularium Illustratum*, London, British Library Add. MS 15760, ff. 68v–69r; it is conveniently illustrated in Nebenzhal, *Atlas of Columbus*, pp. 16–17.
- 188 The text from Schöner's *Luculentissima*, f. 50r: *Sacha region cuius populi Saccae dicti vel Saccosani. In ea neque vrbes neque domus sunt: sed inhabitatores huius nemora & specus habitant: Sagittandi arte peritissimi Turpe enim admodum iudicarunt: si quis ex eis sagittam in cassum emitteret: neque feriret signum. Eius gentes sunt Nomades in pascendo pecore asueti: & nobiles equas mulgentes: lacte vescentes: & in speluncis habitare traduntur.*
- 189 The legends on Waldseemüller's map are: *desertum magnum silvarum ubi reperiuntur diversa animalia* [A large wilderness of woods where various animals are found]; *tigri leopardi linceas leones ursi albi ferocissimi* [tigers leopards lynxes lions ferocious polar bears].
- 190 In Yule's translation of Marco Polo, *The Book of Ser Marco Polo*, the passage is in Vol. 2, p. 480.
- 191 For discussion of the Yale Martellus map see Alexander O. Vietor, "A Pre-Columbian Map of the World, Circa 1489," *Imago Mundi* 17 (1963), pp. 95–96; Marcel Destombes, *Mappemondes, A.D. 1200–1500* (Amsterdam: N. Israel, 1964), pp. 229–233 with plates 37–38; and Ilaria Luzzana Caraci, "Il Planisfero di Enrico Martello della Yale University Library e i Fratelli Colombo," *Rivista Geografica Italiana* 75 (1978), pp. 132–143, translated into English as "Henricus Martellus' Map in the Yale University Library and the Columbus Brothers" in the author's *The Puzzling Hero: Studies on Christopher Columbus and the Culture of his Age* (Rome: Carocci, 2002), pp. 281–291; the earlier article by Carlos Sanz, "Un mapa del mundo verdaderamente importante en la famosa Universidad de Yale," *Boletín de la Real Sociedad Geográfica* 102 (1966), pp. 7–46, is less helpful. There are high-resolution images of the Yale Martellus map available via the online Digital Images collection of the Beinecke Library.
- 192 The *Zeitzeit mappamundi* is reproduced in color, in Werner Kreuer, *Monumenta cartographica: Tabulae mundi: Essener Bearbeitung von zwölf Tafeln der historischen Kartographie mit zwölf Vollfaksimilierungen* (Essen: Werner Kreuer, 1998), with all of the legends and toponyms transcribed by Anna-Dorothee von den Brincken, and translated into German by Karl Wüllensweber, on pp. 72–77 of the accompanying commentary volume. The map is also reproduced, and the legends translated into English, by Heinrich Winter, "A Circular Map in a Ptolemaic MS," *Imago Mundi* 10 (1953), pp. 15–22.
- 193 The text from Schöner's *Luculentissima* ff. 50v–51r: *Serica regio. In hac lana de arboribus colligitur: unde sericum praeparatur. Vnde de eius incolis dicit Poeta. Ignoti facie: sed noti vellere seres. Mites sunt inter se quietissimi: reliquorum mortalium coetus refugiant: absque aegritudine plurimum temporis durantes vitam finiunt.* Part of this including the quotation from the poet comes from Isidore 9.2.40; part of the rest comes from Solinus 51.
- 194 I did not find the article by Thomas W. Kingsmill, "The Sêrica of Ptolemy and its Inhabitants," *Journal of the Royal Asiatic Society, China Branch, Shanghai* 19.2 (1886), pp. 43–60, to be very enlightening.
- 195 Behaim's legend about this Wise Man is transcribed and translated by Ravenstein, *Martin Behaim*, p. 95: *der heiligen drei konig einer auf jndia*—"One of the Three Holy Kings of India"; I think "One of the Three Holy Kings, from India" would be clearer.
- 196 From *Luculentissima*, f. 51r: *Oechardus flu. insignis ex montibus Casii dilabens variis fontibus: deinde transiens ad Boream in mari Septentrionali finitur.*
- 197 From *Luculentissima* f. 53v: *Balor regio: cuius incolae habitant in montibus: siluestres sunt: vino & blado carent: vtuntur carnibus ceruorum: & equitant ceruos domesticos.*
- 198 Incidentally men are represented riding deer (reindeer) in Scandinavia on Mecia de Viladestes's chart of 1413; the anonymous nautical chart which is Florence, Biblioteca Nazionale Centrale, Portolano 16 (ca. 1439–1460); the Catalan Estense map (c. 1460), and the Vatican Borgia XVI metal *mappamundi* from the first half of the fifteenth century. The Mecia de Viladestes chart and Portolano 16 are reproduced in Ramon J. Pujades i Bataller, *Les cartes portolanes: la representació medieval d'una mar solcada* (Barcelona: Institut Cartogràfic de Catalunya, 2007), pp. 202–203 and 270–271, and on the accompanying DVD, numbers C30 and C41, respectively; the Borgia map is described and reproduced in Marcel Destombes, *Mappemondes, A.D. 1200–1500* (Amsterdam: N. Israel, 1964), pp. 239–241 and Plate 29; see also N.A.E. Nordenskiöld, "Om ett aftryck från XV:de seklet af den i metall graverade världskarta, som förvarats i kardinal Stephan Borgias museum i Velletri, Med 1 fac-

- simile," *Ymer* 11 (1891), pp. 83–92, with the reproduction of the map between pp. 130 and 131. For a good detailed study of the map see John Hamer, "The Borgia Map: Europe's Rise and the Re-Definition of the World," MA Thesis, University of Michigan, Ann Arbor, 1995.
- 199 Henry Yule, "Notes Regarding Bolor, and Some Other Names in the Apocryphal Geography of the Upper Oxus," *Journal of the Royal Geographical Society* 42 (1872), pp. 473–480, esp. pp. 473–475.
- 200 For discussion of Marco Polo's account of rhubarb see Stephen G. Haw, *Marco Polo's China: A Venetian in the Realm of Khubilai Khan* (London and New York, Routledge, 2006), pp. 124–126; there is an illustration of collecting rhubarb in Paris, Bibliothèque de l'Arsenal MS 5219 f. 45r; this manuscript of Marco Polo and its illustrations are described by Consuelo W. Dutschke, "Francesco Pipino and the manuscripts of Marco Polo's 'Travels'," PhD Dissertation, University of California at Los Angeles, 1993, pp. 392–409.
- 201 The Caramoran River is illustrated in Paris, BnF, MS français 2810, f. 51r, which image is reproduced in Gousset, *Le Livre des merveilles du monde*, p. 64.
- 202 From *Luculentissima* f. 53v: *Chayra prouintia continet septem regna: est sub domino magni Cham: & sunt idolatrae: Ibi Colubri longitudine decem pedum.*
- 203 From *Luculentissima* f. 53v: *Iudaei clause morantur inter duos montes maximos: quibus & Oceano Orientali optime a natura muniuntur: sunt gentes ferocissimae: & adinuicem se deuorant non parcentibus etiam amicis.*
- 204 On the appearance in this legend of Gog and Magog on the one hand and the ten exiled tribes of the Jews on the other see D. J. A. Ross, *Alexander historiatus: A Guide to Medieval Illustrated Alexander Literature* (Frankfurt am Main: Athenäum, 1988), pp. 34–35; the version involving the ten tribes was apparently the invention of Petrus Comestor in his *Historia Scholastica* Lib. Esther 5.
- 205 From *Luculentissima* f. 46v: *Caspia montes: a quibus etiam mare hoc eis proximum caspium vocatur. Intra hos montes: ut fertur: occluit quondam Alexander magnus Iudeos rubeos de tribubus 10. Gog & Magog &c. quo ibidem adhuc hodie sicuti fama est: clausi reseruantur.*
- 206 Nordenskiöld, "Om ett aftryck" (see note 198), p. 91, transcribes the two legends. The first runs: *Magog in istis duabus sunt gentes magni ut gigantes pleni omnium malorum morum. Quos iudeos artaxor rex collexit de omnibus partibus persarum;* and the second: *Provincia gog in qua fuerunt iudei inclusi tempore artaxorsis regis persarum.* Andrew Gow says that this map, from the first half of the fifteenth century, is the first in which the peoples are described as *iudei clausi*, in his "Gog and Magog on mappaemundi and Early Printed World Maps: Orientalizing Ethnography in the Apocalyptic Tradition," *Journal of Early Modern History* 2.1 (1998), pp. 61–88, esp. p. 78.
- 207 The literature on Gog and Magog is substantial: in addition to the article by Gow just cited see Sandra Sáenz-López Pérez, "Montagnes Caspiennes," in *Dictionnaire des pays mythiques*, forthcoming from Éditions Robert Laffont; Andrew Runni Anderson, *Alexander's Gate, Gog and Magog, and the Inclosed Nations* (Cambridge, MA: The Medieval Academy of America, 1932); Raoul Manselli, "I popoli immaginari: Gog e Magog," in *Popoli e paesi nella cultura altomedievale: settimane di studio del Centro Italiano di Studi sull'Alto Medioevo*, Spoleto, 23–29 aprile 1981 (Spoleto: Centro Italiano di Studi sull'Alto Medioevo, 1983), Vol. 2, pp. 487–521; Alauddin Samarrai, "Beyond Belief and Reverence: Medieval Mythological Ethnography in the Near East and Europe," *The Journal of Medieval and Renaissance Studies* 23.1 (1993), pp. 19–42; Danielle Lecoq, "L'image d'Alexandre à travers les mappemondes médiévales (XIIe–XIIIe)," *Geographia Antiqua* 2 (1993), pp. 63–103, esp. pp. 92–96; Scott D. Westrem, "Against Gog and Magog," in Sylvia Tomasch and Sealy Gilles, eds., *Text and Territory: Geographical Imagination in the European Middle Ages* (Philadelphia: University of Pennsylvania Press, 1998), pp. 54–75; and Hallberg, *L'Extrême Orient*, pp. 225–230, s.v. "Gog et Magog."
- 208 In Yule's translation of Marco Polo (*The Book of Ser Marco Polo*, Vol. 1, p. 281) we have "fine churches" rather than "three churches," but Yule used a combination of different manuscript sources, and most important manuscripts agree that there were three churches. For example manuscript F, which is Paris, Bibliothèque nationale de France MS fr. 1116, and which dates from the early fourteenth century, has been edited by Luigi Foscolo Benedetto as *Il milione, prima edizione integrale* (Florence: L.S. Olschki, 1928), and in Chap. 73, p. 60, has "trios yglise de cristiens nestorin"; and similarly manuscript Z which is Toledo, Archivio



- Capitolare, MS 49.20 Zelada, second half of the fifteenth century: see Alvaro Barbieri, ed., *Milione: redazione latina del manoscritto Z: versione italiana a fronte* (Milan: Fondazione Pietro Bembo 1998), pp. 98–99.
- 209 The province of Tangut is illustrated in Paris, BnF, MS français 2810, ff. 22v–23r, which images are reproduced in Gousset, *Le Livre des merveilles du monde*, pp. 38–39.
- 210 For the relevant legends on Fra Mauro's world map see Falchetta, *Fra Mauro's World Map*, \*2315 (p. 599) and \*2321 (p. 601). The *polisacus* or Pulisanghin River, and its bridge which is mentioned by Polo, is illustrated in Paris, BnF, MS français 2810, f. 49r, which image is reproduced in Gousset, *Le Livre des merveilles du monde*, p. 62.
- 211 From Schöner's *Luculentissima* f. 53v (mistakenly numbered f. 54): *Cathay prouintia magna: in hac reperiuntur lapides praeciosi: herbae & radices medicinales: atque panni preciosi nobilium colorum. In hac prouintia mos hic est. Vxores Soleas de chorio precisas: ad Mariti pedis amplitudinem correspondentes: auro: argento: margaritis: serico quoque fulcitas in capitibus deferunt in signum: vt Mariti pedibus subiectas se offerant: & obedientes Est prouintia magna .25. dietarum longa: ibi intantum habent de mercimoniis specierum & serico: ita quod multo facilius esset adquirere indumentum praeciosum: quam camisiam de lino paratam.*
- 212 On the historical cartography of the region see Rouben Galichian, *Historic Maps of Armenia: The Cartographic Heritage* (London and New York: I. B. Tauris, 2004).
- 213 From the *Luculentissima* f. 47v: *Babylonia regio omnium frugum & fructuum fertilissima: vinifera Aromaticis arboribus & herbis plena: gemmarum & metalorum copiis ditissima. Camelis: equis: asinis & mulis abundantissima: feris & mirabilibus bestiis ac monstruosis abundans: maxime in desertis Huic regioni imperauit rex potentissimus Nabuchodonosor: dicta etiam erat terra Sennaar.*
- 214 For general discussion of the three Arabias see G. W. Bowersock, "The Three Arabias in Ptolemy's Geography," in Pierre-Louis Gatier, ed., *Géographie historique au Proche-Orient: Syrie, Phénicie, Arabie, grecques, romaines, byzantines: actes de la table ronde de Valbonne, 16–18 septembre 1985* (Paris: Éditions du Centre National de la Recherche Scientifique, 1988), pp. 47–54.
- 215 On the role and names of the Red Sea in antiquity see Y. Janvier, "La mer Rouge, lien entre deux mondes dans l'antiquité," *L'Antiquité, Cahiers d'Histoire* 21 (1976), pp. 335–352.
- 216 The passage in Hildebert's *Historia de Mahumete* may be found in *Patrologia Latina* Vol. 171, Cols. 1364–1365; the legend on the Dulcert chart, to quote one example, reads *In ciuita ista est archa legis Machometi qui permanet in aerem per virtutem calamine*—"In this city is the casket of the law of Mohammed which is suspended in the air by the force of a magnet." For full discussion and additional references see Sandra Sáenz-López Pérez, "La peregrinación a La Meca en la Edad Media a través de la cartografía cristiano judía," *Revista de poética medieval* 19 (2006), pp. 177–217; and also Ekkehart Rotter, "Mohammed in der Stadt. Die Kenntnis um die Stadt Medina und das dortige Prophetengrab im mittelalterlichen Europa," *Zeitschrift für Historische Forschung* 36.2 (2009), pp. 183–233, esp. p. 195.
- 217 See Horstmann's edition of the *Historia trium regum*, pp. 226–227 in the Latin text, and pp. 45–46 in the English translation. Behaim follows John of Hildesheim, for his legend on this Wise Man, whom he does not quite name, places him in Tarsis. Ravenstein, *Martin Behaim*, p. 95, translates and transcribes the legend: *der heiligen drei konik einer aus tarsis genant*—"One of the Three Holy Kings of Tarsis, called..."; I would translate "Of the Three Holy Kings, the one of Tarsis is called...." John of Hildesheim was no doubt inspired to locate one of the Three Kings in Tarsis based on Psalms 72:10–11: *reges Tharsis et insulae munera offerent reges Arabum et Saba dona adducent et adorabunt eum omnes reges omnes gentes seruiant ei.*
- 218 See Kretschmer, "Eine neue mittelalterliche Weltkarte" (see note 186), pp. 395–397.
- 219 Marco Polo 1.13 says that the Three Wise Men departed from Saba on their journey to Jerusalem, and this scene is illustrated in Paris, BnF, MS français 2810, f. 11v, which is reproduced in Gousset, *Le Livre des merveilles du monde*, p. 25.
- 220 For Behaim's legend on the spice trade see Ravenstein, *Martin Behaim*, pp. 89–90. Aden's importance in the spice trade was also emphasized in a legend on the Pizzigani map of 1367: see Longhena, "La carta dei Pizigano del 1367" (see note 139), p. 94. On Aden in late medieval times see Robert Bertram Serjeant, "The Ports of Aden and Shihr," *Recueils de la Société Jean Bodin* 32 (1974), pp. 207–224 = *Les grandes escales: colloque organisé en collaboration avec la Commission internationale d'histoire maritime (10e Colloque d'histoire maritime)*, Vol. 1. For a mid-sixteenth-century description of Aden see João de Barros, *Da Asia de João de Bar-*

- ros: dos feitos, que os Portuguezes fizeram no descubrimento, e conquista dos mares, e terras do Oriente (Lisbon: Livraria S. Carlos, 1973–), Decade 2, Book 7, Chap. 8 = Vol. 4, pp. 233–237 in this edition (Decade 2 was first published in 1553).
- 221 For discussion of early Portuguese activity in the Persian Gulf see António Dias Farinha, *Os portugueses no Golfo Pérsico 1507–1538: contribuição documental e crítica para a sua história* (Lisbon: Comissão Nacional para as Comemorações dos Descobrimentos Portugueses, 1991), an offprint from *Mare Liberum: Revista de História dos Mares* 3 (1991), pp. 1–159.
- 222 For general discussion of the cartographic history of the Gulf see Reza Mohammad Sahab, *Persian Gulf in Old Maps: Selected Maps of the Persian Gulf Throughout History* (Tehran: Sahab Geographic & Drafting Institute, 2005).
- 223 So named and discussed by Arthur Davies, "Behaim, Martellus and Columbus," *Geographical Journal* 143 (1977), pp. 450–459, esp. p. 455; for a good account of the cartographic history of this peninsula see Benjamin Olshin, "India Meridionalis: The Dragon's Tail," in "A Sea Discovered: Pre-Columbian Conceptions and Depictions of the Atlantic Ocean," Ph.D. Dissertation, University of Toronto, 1994, pp. 319–377.
- 224 From the *Luculentissima* f. 48v: *Parthia regio multis rebus prodigiosis & monstrosis miranda Nam habet bestias feroces: Pardos: Tigrides: Lince & Aspidēs & serpentes natura seuissimas: Gens dura & crudelis: victu parca: aluntur maxime venationibus: quibus aut iaculando consequuntur: aut sagittando: sunt enim optimi sagittarii. Ibi est Ciconiarum mansio postquam a nobis discedunt.*
- 225 From *Luculentissima* f. 52r: *Sirastrena regio. quae nunc Cambeia dicitur: est ad ostia Indi flu. sita. Agriophagi alio nomine Cicopletes dicti: habent unum oculum in fronte.*
- 226 The legend is transcribed and translated in *Portugaliae Monumenta Cartographica*, Vol. 1, p. 12: *Cambaya esta o norte em xj graos e ma aqi ha laquar z panos finos de toda sorte z figuos passados z huvas z, emçesso z almizquer z ambre z aljofar que tudo vem de dentro pollo o seritam de caireto—* "Cambay lies in xi degrees north; here there are lac, fine cloth of all kinds and dried figs and grapes and incense and musk and amber and seed pearls; all of which are carried from the interior (?)." The city is depicted in a miniature in Paris, BnF, MS français 2810, f. 86v which is reproduced in Gousset, *Le Livre des merveilles du monde*, p. 84; there is a brief early sixteenth-century account of the city in Lodovico de Varthema, *The Travels of Ludovico di Varthema in Egypt, Syria, Arabia Deserta and Arabia Felix, Persia, India, and Etheopia*. A.D. 1503 to 1508, trans. John Winter Jones and George Percy Badger (London: Printed for the Hakluyt Society, 1863), pp. 105–107.
- 227 See Varthema, *The Travels of Ludovico di Varthema*, trans. John Winter Jones and George Percy Badger (London: Printed for the Hakluyt Society, 1863), pp. 115–116. For discussion of Varthema's narrative see Folkert Reichert, "Von Mekka nach Malakka? Ludovico de Varthema und sein Itinerar (Rom 1510)," in Xenja von Ertzdorff, ed., *Beschreibung der Welt. Zur Poetik der Reise- und Länderberichte. Vorträge eines interdisziplinären Symposiums vom 8. bis 13. Juni 1998 an der Justus-Liebig-Universität Gießen* (Amsterdam: Rodopi, 2000), pp. 273–297. For a later, mid-sixteenth-century account of Goa see João de Barros, *Da Asia de João de Barros: dos feitos, que os Portuguezes fizeram no descubrimento, e conquista dos mares, e terras do Oriente* (Lisbon: Livraria S. Carlos, 1973–), Decade 2, Book 5, Chap. 1 = Vol. 3, pp. 431–442 in this edition (Decade 2 was first published in 1553). See also Geneviève Bouchon, "Premières expériences d'une société coloniale: Goa au XVI<sup>e</sup> siècle," in *Histoire du Portugal, histoire européenne: actes du colloque, Paris 22–23 mai 1986* (Paris: Fondation Calouste Gulbenkian, 1987), pp. 85–96; republished in *Inde découverte, Inde retrouvée 1498–1630: études d'histoire indo-portugaise* (Paris: Centre culturel Calouste Gulbenkian; and Lisbon: Commission nationale pour les commémorations des découvertes portugaises, 1999), pp. 291–301.
- 228 From *Portugaliae Monumenta Cartographica*, Vol. 1, p. 12: *aqj he calequt hua muito nobre cidade descoberta por el muy escaricido pripe Rey dom manuel Rey de Portugall aqj ay muyto menxuy de sua natureca (?) z pimenta z outras muytas mercadarias que bem de muitas partes .s. canela gengibre crauo ençensso sandalos z todas sortes de espeçeria z pedras de grande valor z perlas z aljofar—* "Here is Calicut, a most noble city discovered by the most illustrious prince King Dom Manuel King of Portugal: there is much benzoin of its nature (?) and pepper and many other kinds of merchandise coming from many parts, to wit, cinnamon, ginger, cloves, incense, sandalwood and all kinds of spices and stones of great value and pearls and seed pearls."

- The legend on the Caverio map is very similar, see Stevenson, *Marine World Chart*, p. 112. For discussion of the spice trade see C. H. H. Wake, "The Changing Pattern of Europe's Pepper and Spice Imports, ca. 1400–1700," *Journal of European Economic History* 8.2 (1979), pp. 361–403, with a few corrections in Eliyahu Ashtor, "The Volume of Mediaeval Spice Trade," *Journal of European Economic History* 9.3 (1980), pp. 753–763; these articles and others are reprinted in M. N. Pearson, ed., *Spices in the Indian Ocean World* (Aldershot, Great Britain, and Brookfield, VT: Variorum, 1996). See also Stefan Halikowski Smith, "The Mystification of Spices in the Western Tradition," *European Review of History* 8.2 (2001), pp. 119–136.
- 229 The legend on Waldseemüller's 1507 map: *Callicut provincia nobilis in ea sunt multa genera minerarum pimenta et alia genera mercatorum que veniunt de multis partibus canella zinamomum zinziber gariofolus sandalum et de omnibus specibus: hec est inuenta per regem portugallie*—"The noble province of Calicut; in it there are many types of minerals and other types of merchandise which come from many parts: cinnamon, ginger, clove, sandalwood, and a bit of every spice: the region was discovered by the King of Portugal." For some discussion of Calicut in the sixteenth century see Geneviève Bouchon, "Un microcosme: Calicut au 16<sup>e</sup> siècle," in Jean Aubin and Denys Lombard, eds., *Marchands et hommes d'affaires asiatiques dans l'Océan Indien et la Mer de Chine 13<sup>e</sup>–20<sup>e</sup> siècles* (Paris: Editions de l'Ecole des hautes études en sciences sociales, 1988), pp. 50–57; translated as "A Microcosm: Calicut in the Sixteenth Century," in Denys Lombard and Jean Aubin, eds., *Asian Merchants and Businessmen in the Indian Ocean and the China Sea* (New Delhi and New York: Oxford University Press, 2000), pp. 40–49. See also Geneviève Bouchon, "Calicut at the Turn of the Sixteenth Century," *Revista de Cultura* (Macao) 13–14 (1991), pp. 39–47; republished in *Inde découverte, Inde retrouvée 1498–1630: études d'histoire indo-portugaise* (Paris: Centre culturel Calouste Gulbenkian; and Lisbon: Commission nationale pour les commémorations des découvertes portugaises, 1999), pp. 227–236. There is an appealing but unrealistic two-page illustration of Calicut in Lorenz Fries, *Uslegung der Mercarthen oder Cartha Marina* (Strassburg: Johannes Grüninger, 1525); for discussion of the illustration see Hildegard Binder Johnson, *Carta Marina: World Geography in Strassburg, 1525* (Minneapolis: University of Minnesota Press, 1963), pp. 111–112.
- 230 See Varthema, *The Travels of Ludovico di Varthema*, trans. John Winter Jones and George Percy Badger (London: Printed for the Hakluyt Society, 1863), pp. 135–177, 266, and 274–280 on Calicut generally, and pp. 157–158 on the spices that grow near the city; on p. 266 he hears that Portuguese ships have reached the city, probably the fleet of Don Francisco de Almeyda.
- 231 For more discussion of Evlath see Samuel Krauss, "'Euilat' in the LXX," *The Jewish Quarterly Review* 11.4 (July, 1899), pp. 675–679.
- 232 From *Luculentissima* f. 52r: *Gangaridae gentes: quorum regio Eiulat & Orphir etiam nominatur in libris regum: capi .9. & etiam .10. ibi aurum melius totius mundi invenitur: ibi margaritae & lapides preciosi: ibi Bdelium & gemmae preciosae vt Onichinus & Carbunculus: ibi multitudo Elephantorum.*
- 233 The *Rudimentum Novitorium* map is conveniently illustrated in Nordenskiöld, *Facsimile-Atlas*, p. 3. Incidentally Evlath appears on the Cotton or Anglo-Saxon map of the tenth or eleventh century, which is British Library Cotton MS Tiberius B. V, f. 56v; see Miller, *Mappaemundi*, Vol. 3, p. 34. The map is well illustrated in P.D.A. Harvey, *Medieval Maps* (London: British Library, 1991), p. 26.
- 234 Manuel Francisco de Barros Santarém, *Essai sur l'histoire de la cosmographie et de la cartographie pendant le Moyen-âge* (Paris: Maulde et Renou, 1849–52), Vol. 3, pp. 506–513, has a somewhat vague essay on the Trees of the Sun and Moon in medieval cartography; see also Pietro Gribaudi, "Il mito degli alberi del Sole e della Luna e dell'Albero secco nella Geografia e nella Cartografia medievale," in *Atti del 5. Congresso Geografico Italiano tenuto in Napoli dal 6 al 11 Aprile 1904* (Naples: Tocco & Salvietti, 1905), pp. 828–842. The account of this same subject by Danielle Lecoq, "L'image d'Alexandre à travers les mappemondes médiévales (XII<sup>e</sup>–XIII<sup>e</sup>)," *Geographia Antiqua* 2 (1993), pp. 63–103, esp. pp. 81–82, is brief but good. The scene of Alexander consulting the Trees of the Sun and Moon is frequently illustrated in medieval manuscripts; see for example London, British Library, Royal MS 15 E. VI, f. 18v, reproduced by Yule, *The Book of Ser Marco Polo*, Vol. 1, p. 134; London, British Library, Add.

- MS 15268, *Li livre des ansienes estoires*, c. 1285, f. 214v; The Hague, Koninklijke Bibliotheek, 78 D 38 II, a History Bible of c. 1430, f. 79r; The Hague, Koninklijke Bibliotheek, 78 D 39, a History Bible of c. 1467, f. 374v, and many others: see the index in D.J.A. Ross, *Illustrated Medieval Alexander-Books in Germany and the Netherlands: A Study in Comparative Iconography* (Cambridge: Modern Humanities Research Association, 1971); and also the brief discussion in Wittkower, "Marco Polo and the Pictorial Tradition" (see note 181), pp. 167–169, with illustrations.
- 235 From the *Luculentissima* ff. 52v–53r: *Meandrus & Sinedorum montes: qui apud nos mons Victorialis: lingua vero vernacular Faus vocantur. In hoc monte visa est noua stella iuxta Prophetiam Balaam: quae tribus magis ducatum praebuit ad Bethlehem usque ibi aedificauerunt aeccliam: & in eadem tandem mortui mirificeque sepulti sunt. Hanc regionem & pene totam Indiam illustrauit s. Thomas apostolus ibi fecit tres magos Gaspar: Balthasar: Melchior episcopos ante obitum eorum.* On the ordaining of the Three Wise Men as bishops see John of Hildesheim, *The Three Kings of Cologne*, ed. C. Horstmann (London: Pub. for the Early English Text Society by N. Trübner & Co., 1886), Chap. 32, pp. 255–257 and 110–112; he gives the name of the mountain as *Vaus* rather than *Faus*, *passim*. G. E. Gerini, *Researches on Ptolemy's Geography of Eastern Asia (Further India and Indo-Malay Archipelago)* (London: Royal Asiatic Society and Royal Geographical Society, 1909), pp. 55 and 832, identifies *Meandrus Mons* with the Mahudaung Mountains in Upper Burma.
- 236 On the *mons vaus* on Walsperger's map see Konrad Kretschmer, "Eine neue mittelalterliche Weltkarte der vatikanischen Bibliothek," *Zeitschrift der Gesellschaft für Erdkunde* 26 (1891), pp. 371–406, esp. p. 396; for the legend on Behaim's globe see Ravenstein, *Martin Behaim*, p. 95.
- 237 In Horstmann's edition this is p. 213; the name *Victorialis* is not used in the English translation in Horstmann's edition (it would be on pp. 8–9). For discussion of the *Mons Victorialis* see Mario Bussagli and Maria Grazia Chiappori, *I Re Magi: realtà storica e tradizione magica* (Milan: Rusconi, 1985), pp. 139–154.
- 238 In Horstmann's edition this is pp. 260–261, with an English translation on pp. 118–121.
- 239 I did not find Paul Wheatley's *The Golden Khersonese: Studies in the Historical Geography of the Malay Peninsula before A.D. 1500* (Westport, CT: Greenwood Press, 1973), to be very helpful.
- 240 From *Luculentissima* f. 54r: *Murfuli regio: in cuius montibus lapides inueniuntur preciosi Adamantes sed periculosum est propter serpentes maximos quorum ibi est maxima multitudo. etiam post pluuias vadunt homines ad flumina que veniunt de montibus: & deficiente aqua in arena inueniunt adamantes.*
- 241 See Isidore *Etymologiae* 14.3.7, Honorius Augustodunensis, *Imago Mundi* 1.10, the Ebstorf map (see Miller, *Mappaemundi*, Vol. 5, p. 51), the *Luculentissima* f. 51v, and Hallberg, *L'Extrême Orient*, p. 54, s.v. "Aurei montes."
- 242 A late fourth-century treatise by St. Epiphanius seems to be the oldest text containing this legend; see *Epiphanius de gemmis: The Old Georgian Version and the Fragments of the Armenian Version*, ed. and trans. Robert P. Blake and Henri de Vis (London: Christophers, 1934), pp. 116–118. See also L. Marcel Devic, ed., *Les merveilles de l'Inde: ouvrage arabe inédit du Xe siècle* (Paris: A. Lemerre, 1878), pp. 109–111; the Ebstorf map (see Miller, *Mappaemundi*, Vol. 5, p. 49); the legend on a lost late fourteenth-century Genoese mappamundi, see Jacques Paviot, "Une mappemonde génoise disparue de la fin du XIVe siècle," in Gaston Duchet-Suchaux, ed., *L'Iconographie: études sur les rapports entre textes et images dans l'Occident médiéval* (Paris: Le Léopard d'Or, 2001), pp. 69–97, esp. p. 80, no. 19; and a legend and illustration on the Catalan Atlas, see *Mapamundi del año 1375*, p. 82. The tale of the mountain with diamonds and serpents is also related by Nicolò de' Conti, who calls the mountain *Albenigaras*: see R. H. Major, ed., *India in the Fifteenth Century* (London: Printed for the Hakluyt Society, 1857) = Works Issued by the Hakluyt Society, 22, pp. 29–30 in the section devoted to Conti. The scene of collecting the diamonds is illustrated in the beautifully illuminated MS of Marco Polo which is Paris, Bibliothèque nationale de France MS français 2810, f. 82r; this image is reproduced in Marie-Thérèse Gousset, ed., *Le Livre des merveilles du monde* (Paris: Bibliothèque de l'image, 2002), p. 83; the scene is also illustrated in Paris, Bibliothèque de l'Arsenal MS 5219, f. 140r, and in New York, Morgan Library, MS M. 788, f. 83v, in a work on the marvels of the world in a sixteenth-century Turkish manuscript. See also Thomas Reimer, "Die Diamantenadler des Marco Polo," pp. 241–247, and in French

- "Marco Polo et les aigles chercheurs des diamants," pp. 491–496, in the commentary volume accompanying Marco Polo, *Das Buch der Wunder = Le livre des merveilles* (Lucern: Faksimile Verlag, 1995). There is also a curious image of Murfuli illustrating Chap. 63 of Lorenz Fries, *Uslegung der Mercarthen oder Cartha Marina* (Strassburg: Johannes Grüninger, 1525), in which the Indians have decorated their bodies with the gems; for discussion see Hildegard Binder Johnson, *Carta Marina: World Geography in Strassburg, 1525* (Minneapolis: University of Minnesota Press, 1963), pp. 110–111.
- 243 See Horstman's edition of the *Historia trium regum*, pp. 228, 237 (note), 260 (note), 272, 278, and 302–303 in the Latin text, and pp. 44–47, 72–73, 121, 130–132, and 146 in the translation, especially pp. 272 and 130–132 on the temporary placement of St. Thomas's body on the island. See also John of Hildesheim, *The Three Kings of Cologne, edited from London, Lambeth Palace MS 491 by Frank Schaer* (Heidelberg: Winter, 2000), pp. 60, 84, and 111.
- 244 See Ravenstein, *Martin Behaim*, p. 95.
- 245 For discussion of the Bragmanni see Richard Stoneman, "Naked Philosophers: The Brahmans in the Alexander Historians and the Alexander Romance," *Journal of Hellenic Studies* 115 (1995), pp. 99–114; and Beverly Berg, "Dandamis: An Early Christian Portrait of Indian Asceticism," *Classica et Medievalia* 31 (1970), pp. 269–305.
- 246 The legend on the Cantino map, from *Portugaliae Monumenta Cartographica*, Vol. 1, p. 13, runs: *nagaingoy aqui a tudo o que atras he nomeado z Rubis z outras pedras de grande valor*—"Nagaingoy: here there is what is said before and rubies and other stores of great value." Suárez, *Early Mapping of Southeast Asia*, p. 111, identifies this city with Lugar in southern Thailand.
- 247 From *Portugaliae Monumenta Cartographica*, Vol. 1, p. 13: *madagarir aqui linaloe z almjzquer z menjoim z estoraque z outras muitas mercadarias*—"Madagarir: here linaloes and musk and benzoin and storax and much other merchandise."
- 248 See William A. R. Richardson, "East and South-East Asia: Cartographers' Attempts to Reconcile the Maps of Ptolemy and Martellus with Marco Polo's *Travels* and with Portuguese Charts," *Terrae Incognitae* 32 (2000), pp. 1–22, esp. p. 4.
- 249 On St. Thomas' activities and death in India see Marco Polo 3.18; Wright, *Geographical Lore*, pp. 74, 275, and 278; W. R. Philipps, "The Connection of St. Thomas the Apostle with India," *The Indian Antiquary* 32 (1903), pp. 1–15 and 145–160; and Luís Filipe Ferreira Reis Thomaz, "A lenda de S. Tomé Apóstolo e a expansão portuguesa," *Lusitania Sacra*, 2ª série, Vol. 3 (1991), pp. 349–418, reprinted in *Separatas do Centro de Estudos de História e Cartografia Antiga*, no. 233 (Lisbon: Instituto de Investigação Científica Tropical, 1992). There is an illustration of St. Thomas's shrine in Oxford, Bodleian Library, MS Bodley 264, f. 266v, and high-resolution images from this manuscript are available on the Bodleian's internet site.
- 250 From *Portugaliae monumenta cartographica*, Vol. 1, p. 13: *malaqua em esta cidade ha todas as mercadarias que vem a qualiquit .s. crauo z benjoym z lanhaloe z samdalos estoraque z Ruybarbo z marfim z pedras preçiosas de muita valia z perlas z almjzquer z porçolanas finas z outras mutas mercadarias todas a mor parte vem de fora contra a trra de chins*—"Malaqua: in this city there is all the merchandise that comes to Calicut, to wit, cloves and benzoin and linaloes and saldalwood, storax and rhubarb and ivory and precious stones of great value and pearls and musk and fine porcelain and much other merchandise; most of it comes from outside, on the side of the land of the Chinese." There are early sixteenth-century accounts of Malacca in Varthema, *The Travels of Ludovico di Varthema*, trans. John Winter Jones and George Percy Badger (London: Printed for the Hakluyt Society, 1863), pp. 223–228; and *Epistola potentissimi ac inuictissimi Emanuelis regis Portugaliae & Algarbiorum &c. de victoriis habitis in India & Malacha ad s. in Christo patrem et dominum nostrum Leonem X pont. maximum* (Rome: Iacobum Mazochium, [1513?]); for a mid-sixteenth-century description of Malacca see João de Barros, *Da Asia de João de Barros: dos feitos, que os Portuguezes fizeram no descubrimento, e conquista dos mares, e terras do Oriente* (Lisbon: Livraria S. Carlos, 1973–), Decade 2, Book 6, Chap. 1 = Vol. 4, pp. 1–27.
- 251 From *Luculentissima* f. 54r: *Lac regnum. Hic habitant Habrayani: qui supra modum mendatium horrent. Viuunt casti valde: sunt boni & iusti: sed idolatre: nudi totaliter vadunt. Boues adorant. Ibi ligna syluarum Sethin.*
- 252 There is an illustration of the Kingdom of Lar in the MS of Marco Polo which is Paris, BnF, MS français 2810, f. 83r, and it is reproduced in Gousset, *Le Livre des merveilles du monde*, p. 84.

- 253 On the identification of setim or shittah wood with acadia in Biblical contexts see John H. Balfour, *The Plants of the Bible* (London: T. Nelson and Sons, 1885), pp. 80–82; and Michael Zohary, *Plants of the Bible: A Complete Handbook to All the Plants with 200 Full-Color Plates Taken in the Natural Habitat* (London and New York: Cambridge University Press, 1982), p. 116. Albertus Magnus describes setim wood in his *De vegetabilibus*; see Albertus Magnus, *De vegetabilibus libri VII*, ed. Ernest Meyer and Carolus Jessen (Berlin: G. Reimeri, 1867), Book 6, tr. 1, c. 33, sect. 223, p. 451.
- 254 Jesús M.<sup>a</sup> Porro Gutiérrez, "La cartografía ptolemaica del sureste asiático y su variante martelliana: planteamiento, consideraciones críticas y desarrollo de una hipótesis reinterpretativa," *Revista Complutense de Historia de América* 27 (2001), pp. 327–356, esp. p. 354.
- 255 The legends on the Cantino map which locate sandalwood in the Malay Peninsula are transcribed and translated in *Portugaliae monumenta cartographica*, Vol. 1, pp. 12–13; for the legends on the Caverio map see Stevenson, *Marine World Chart*, pp. 112–113. For discussion of early trade in sandalwood see John Villiers, "As derradeiras do mundo: The Dominican Mission and the Sandalwood Trade in the Lesser Sunda Islands in the Sixteenth and Seventeenth Centuries," in Luís de Albuquerque and Ignácio Guerreiro, eds., *II seminário internacional de história indo-portuguesa* (Lisbon: Instituto de investigação científica tropical and Centro de estudos de história e cartografia antiga, 1985), pp. 571–600.
- 256 From *Luculentissima* f. 54r: *Coylu regio: ibi morant christiani & iudaei: & idolatrae. habent linguam propriam: Rex nulli tributarius. ibi omnia genera specierum.*
- 257 On Coilum see further Paul Pelliot, *Notes on Marco Polo* (Paris: Impr. nationale, 1959–73), Vol. 1, pp. 399–402, and the illustration of this region in Paris, BnF, MS français 2810, f. 84r, reproduced in Gousset, *Le Livre des merveilles du monde*, p. 85.
- 258 Waldseemüller's legend on Prester John runs: *Hic dominatur ille bonus rex et dominus qui vocatur prester iohannes. dominus totius Indie Orientalis et meridionalis et omnes reges Indie sub eius dominio sunt et in omnibus montibus Indie reperiuntur lapides preciosi de omni genere et de omni genere specierum*—"Here rules that good king and lord who is called Prester John. He is the lord of all eastern and southern India, and all of the kings of India are under his rule. In all of the mountains of India are found precious stones of all types and all sorts of spices." For more on Prester John see Hallberg, *L'Extrême Orient*, pp. 281–285, s.v. "Johannes Presbyter"; Ulrich Kniefelkamp, *Die Suche nach dem Reich des Priesterkönigs Johannes. Dargestellt anhand von Reiseberichten und anderen ethnographischen Quellen des 12. bis 17. Jahrhunderts* (Gelsenkirchen: Müller, 1986); and Charles F. Beckingham and Bernard Hamilton, eds., *Prester John, the Mongols, and the Ten Lost Tribes* (Aldershot, Hampshire, and Brookfield, VT: Variorum, 1996).
- 259 See Ravenstein, *Martin Behaim*, p. 86.
- 260 For discussion of Lama Lake see Suárez, *Early Mapping of Southeast Asia*, pp. 107 and 152–153; it should be noted that Waldseemüller indicates that pearls are gathered from *Oman lacus* in northern Asia; the fishing of pearls from the lake mentioned by Polo is illustrated in Paris, BnF, MS français 2810, f. 54r, reproduced in Gousset, *Le Livre des merveilles du monde*, p. 66; and also in the manuscript of Marco Polo which is New York, Pierpont Morgan Library MS M. 723, f. 175v; this image can be viewed through the Morgan Library's online catalog.
- 261 For discussion see A. Barth, "Çanf et Campā," *Bulletin de l'École française d'Extrême-Orient* 2.1 (1902), pp. 98–99.
- 262 For discussion of the different divisions of India see Yule's note on Marco Polo 3.39 (see *The Book of Ser Marco Polo*, Vol. 2, pp. 425–427); Michael Harney, "The Geography of the Caballero Zifar," *La corónica* 11.2 (1983), pp. 208–219; and Philip Mayerson, "A Confusion of Indias: Asian India and African India in the Byzantine Sources," *Journal of the American Oriental Society* 113.2 (1993), pp. 169–174.
- 263 From *Luculentissima* f. 54v: *Quian flu. ortum habens ad radices montium Cyambae prouintiae: per ora quattuor effusus: modo in stagna se fundens modo in angustias resorbens: in orientalem oceanum efunditur.*
- 264 From *Luculentissima* f. 59v: *QVINSAL ciuitas maxima totius mundi: habens in circumitu .100. miliaria Italica: in medio cuius lacus magnus est: habens mille & ducentos pontes: in nostro ideomate interpretatur ciuitas coeli. Ibi bonum nascitur vinum. In hac rex Mangi prouintiae saepius moram agit.*

- 265 The city is illustrated in Paris, BnF, MS français 2810, f. 67r, which is reproduced in Gousset, *Le Livre des merveilles du monde*, p. 74; it is also illustrated in Oxford, Bodleian Library, MS Bodley 264, f. 257r, and less impressively in London, British Library Royal MS 19.D.i, f. 113r. See also A. C. Moule, "Marco Polo's Description of Quinsai," *T'oung Pao* 33 (1937), pp. 105–128.
- 266 From *Luculentissima* f. 54r: *Mangi prouintia. Continet nouem regna: & ciuitates sine numero. Ibi Cannae grossae trium palmarum: & longitudine 15. passuum. Est vtique regio melior mundi. Ibi nemo aegenus. Ibi formosiores foeminae mundi: Illic vxor superuiuens: cum defuncto marito comburitur. Sunt & illic Anseres albi natura coronati: & colla habentes rubea Mulieres in earum frontibus: signetum ferunt corneum: vt a virginibus discernantur. Argentum non estimant: sed aurum.* The province is illustrated in Paris, BnF, MS français 2810, f. 64r, which is reproduced in Gousset, *Le Livre des merveilles du monde*, p. 73.
- 267 From *Portugaliae Monumenta Cartographica*, Vol. 1, p. 13: *quiritiria esta o norte em xix pulgadas—Qujritiria aqui ha muta seda z çera z almjzquer z menjoym z estoraque z Robis z outras pedras de mutas sortes—*"Quiritiria lies xix inches north—Quiritiria, here there is much silk and wax and musk and benzoin and storax and rubies and other stones of many kinds." The legend on the Caverio map is very similar; see Stevenson, *Marine World Chart*, pp. 113–114.
- 268 It should be mentioned that both Schöner's leviathan and the leviathan in the *Hortus sanitatis* are quite similar to medieval depictions of the *serra*: see G. C. Druce, "The Legend of the Serra or Saw-Fish," *Proceedings of the Society of Antiquaries* 31 (1919), pp. 20–35, particularly the illustrations from British Library, MS Sloane 3544, Oxford, Merton College MS 240, and London, Sion College (the latter MS now Los Angeles, Paul Getty Museum, MS Ludwig XV 4). For more on the *serra* see Claude Lecouteux, *Les monstres dans la littérature allemande du Moyen Age: contribution à l'étude du merveilleux médiéval* (Göppingen: Kümmerle, 1982), Vol. 2, pp. 242–243.
- 269 Domenico Silvestri discusses Mene in his *De insulis et earum proprietatibus*, an encyclopedia of the world's islands written between 1385 and 1410; this work was edited by C. Pecoraro in *Atti della Accademia di scienze, lettere e arti di Palermo* 14.2 (1954), pp. 1–319; and now there is a new edition with a Spanish translation by José Manuel Montesdeoca, *Los islarios de la época del humanismo: el 'De Insulis' de Domenico Silvestri, edición y traducción* (La Laguna: Servicio de Publicaciones Universidad de La Laguna, 2004); the text on Mene is on pp. 382–385 in Montesdeoca's edition.
- 270 See Richard Uhden, "The Oldest Portuguese Original Chart of the Indian Ocean, A. D. 1509," *Imago Mundi* 3 (1939), pp. 7–11, esp. p. 10.
- 271 There are woodcuts of two globes in Schöner's *Luculentissima*, one at the end of the unfoliated introductory section, and the other on f. 16r, and both are oriented so that they show the southern Indian Ocean and the island of Madagascar, but the island of S. *Laurentii* appears on neither. Schöner was evidently content to use a pre-existing woodcut rather than create a new one which more accurately reflected his geographical beliefs.
- 272 *Sancti Laurentij insula hac noua nauigatione in gradibus eleuationeum .23.30. obseruata: mire magnitudinis cernitur.* Also the rubric to Schöner's description of the voyage speaks of *terrae ad austrum inuente*, "lands discovered to the South."
- 273 On the discovery and historical cartography of Madagascar see Albert Kammerer, "La découverte de Madagascar par les Portugais et la cartographie de l'île (1500–1667)," *Boletim da Sociedade de Geografia de Lisboa* 67.9–10 (1949), pp. 517–632; and also Gabriel Gravier, *La cartographie de Madagascar* (Rouen: E. Cagniard, and Paris: A. Challamel, 1896).
- 274 Waldseemüller's legend on the *orcha*: *Hic cernitur orcha mirabile monstrum marinum ad modum solis cum reuerberat cuius figura vix describi potest nisi quod est pelle mollis et carne in mensa—*"Here is seen the orcha, an extraordinary sea monster which is like the sun when it beats down; its appearance can hardly be described except that its skin is soft and it is a huge mass of flesh." The "s" in "solis" is extremely faint, rather like the "n" in "marinum." On the *orcha* see Pliny 9.5.12–13, Thomas of Cantimpré 6.39, and the *Hortus sanitatis*, "De piscibus" Chap. 64.
- 275 For a brief account of Lopes de Sequeira's life see Vítor Rodrigues, "Diogo Lopes de Sequeira," *Dicionário de História dos Descobrimentos Portugueses*, ed. Luís de Albuquerque (Lisbon: Caminho, 1994), Vol. 2, pp. 981–982. For an account of Lopes de Sequeira's voyage of

- 1508 see João de Barros, *Da Ásia de João de Barros: dos feitos, que os Portuguezes fizeram no descobrimento, e conquista dos mares, e terras do Oriente* (Lisbon: Livraria S. Carlos, 1973–), Decade 2, book 4, cap. 2 = Vol. 3, pp. 391–402 in this edition; Decade 2 was first published in 1553; there is also a shorter account in pp. 107–109 of António Galvão, *The Discoveries of the World, from their First Original unto the Year of Our Lord 1555*, trans. Richard Hakluyt (London: Printed for the Hakluyt Society, 1862) = Works Issued by the Hakluyt Society, 30; this edition includes the Portuguese text of the original edition of Lisbon, 1563. Ronald Bishop Smith, *Diogo Lopes de Sequeira* (Lisbon: Silvas, 1975), pp. 35–39, transcribes a letter Lopes de Sequeira wrote dated August 19, 1508, from the island of São Lourenço (i.e. Madagascar) to Jorge de Aguiar. In the *Livro de Lisuarte de Abreu* (New York, Pierpont Morgan Library, MS M. 525, compiled between 1558 and 1565), there is portrait of Lopes de Sequeira on f. 6r, and a watercolor painting of his fleet of 1509 on ff. 27v–28r; this manuscript has been reproduced in facsimile as *Livro de Lisuarte de Abreu* (Lisbon: Comissão Nacional para as Comemorações dos Descobrimentos Portugueses, 1992). Lopes de Sequeira is also mentioned in Luís de Camões' *Lusiads* 10.52.
- 276 King Manuel's orders to Lopes de Sequeira for his voyage survive and are very interesting. They have been published in *Annaes maritimos e coloniaes*, sér. 3 (1843), pp. 479–492; Afonso de Albuquerque, *Cartas de Affonso de Albuquerque, seguidas de documentos que as elucidam*, ed. Raymundo Antonio de Bulhão Pato and Henrique Lopes de Mendonça (Lisbon: Typ. da Academia Real das Sciencias de Lisboa, 1884–), Vol. 2, pp. 403–419; and in José Ramos Coelho, ed., *Alguns documentos do Archivo Nacional da Torre do Tombo acerca das navegações e conquistas portuguesas* (Lisbon: Imprensa Nacional, 1892), pp. 184–197. The parts of these orders which pertain to southern Africa are translated into English by George McCall Theal, *Records of South-Eastern Africa: Collected in Various Libraries and Archive Departments in Europe* (Cape Town: Printed for the Government of the Cape Colony, W. Clowes, 1898–1903), Vol. 1, pp. 68–69; the parts relating to Madagascar in David S. Landes, *The Wealth and Poverty of Nations* (New York: W. W. Norton, 1998), pp. 92–93; the parts relating to Ceylon by Donald William Ferguson, "The Discovery of Ceylon by the Portuguese in 1506," *Journal of the Ceylon Asiatic Society* 19.59 (1907), pp. 284–385, esp. Appendix C2, pp. 364–365; and the part ordering him to learn all about the Chinese while he is in Malacca by Donald Ferguson, "Letters from Portuguese Captives in Canton, written in 1534 and 1536, with an Introduction on Portuguese Intercourse with China in the First Half of the Sixteenth Century," *The Indian Antiquary* 30 (1901), pp. 421–451 and 467–491, and 31 (1902), pp. 10–32 and 53–65, on p. 421.
- 277 On Zenobia see *Paulys Real-Encyclopädie der classischen Altertumswissenschaft*, Series 2, Vol. 10, Col. 15; and the *Periplus Maris Erythraei* 33.11.
- 278 From *Luculentissima* f. 49v: *Hic venit notandum quod Anno domini .1285. in vna ex his insulis soli habitabant viri: in alia foeminae: & simul conueniebant semel in anno: & sunt christiani: habent episcopum subiectum archiepiscopo Scoyrae insulae.*
- 279 See Ravenstein, *Martin Behaim*, p. 105. The legend on Fra Mauro's world map is similar as well: *Queste do' isole sono habitade per christiani. In una de le qual çoè in nebila habita le done e in l'altra dita mangla habita li lor homeni, i qual solamente tre mesi de l'ano stano con le done—* "These two islands are inhabited by Christians. In one of them, called Nebila, live the women; in the other, called Mangla, live the men, who pass only three months a year with the women"; see Falchetta, *Fra Mauro's World Map*, \*6, p. 175.
- 280 Yule discusses the Islands of Men and Women in *The Book of Ser Marco Polo*, Vol. 2, pp. 405–406; see also Silvestri's *De insulis et earum proprietatibus*, s.v. "Feminina insula" and "Masculina insula," pp. 117 and 156–157 in Montesdeoca's edition (see note 269). Pel-liot, *Notes on Marco Polo*, Vol. 2, pp. 671–725 has a long section on eastern analogues of the tale. There is an illustration of the islands in Paris, BnF, MS français 2810, f. 87r, which is reproduced by Gousset, *Le Livre des merveilles du monde*, p. 88. There is also an attractive illustration of the islands in the manuscript of Marco Polo which is New York, Pierpont Morgan Library MS M. 723, f. 245r; this image can be viewed through the Morgan's online catalog; and also in Paris, Bibliothèque de l'Arsenal, MS 5219, f. 150r.
- 281 Behaim gives somewhat more information in his legend, which Ravenstein (*Martin Behaim*, p. 105) translates thus: "Socotra is an island 500 Italian miles from the two islands of the men



- and women. Its inhabitants are Christians, and an archbishop is their Lord. Good silk garments are made there, and much ambergris found, as is written by Marco Polo in the thirty-eight chapter of his third book [in Pipino's version]." See also Richard Hennig, "Sokotra als östliche Insula Fortunata des Altertums," *Petermanns Geographische Mitteilungen* 92 (1948), pp. 89–90. In the early fourteenth century the Dominican William Adam spent several months on Socotra and decided that it would be useful as a base from which Christian ships could seize Aden and blockade the Red Sea, but nothing came of his plan; see his *De modo Saracenos extirpandi*, edited in *Recueil des historiens des croisades: documents arméniens* (Paris: Imprimerie royale, 1869–1906), Vol. 2, pp. 519–555. Schöner evidently did not know that the Portuguese had conquered the island in 1507. For discussion see José Pereira da Costa, "Socotorá e o domínio português no oriente," *Revista da Universidade de Coimbra* 23 (1973), pp. 323–371.
- 282 From *Luculentissima* ff. 53r–53v: *Taprobana insula quae diu antea Simondi dicebatur: nunc autem Salica: Hi quondam tegebantur velis muliebribus: ibi homines huius insulae absque molestia corporali: longueuo viuunt tempore: Sunt Astrologi optimi. Ibi nascitur mel: Oriza: Zinziber: Berillus: Hiacintus: & vniuersorum metallorum genera: auro argentoque abundant. Elephantes & Tigrides gignit: ibi duas aestates: & duas hyemes esse dicunt: & bis vernare floribus locum omni tempore virens: & folia eius semper sunt virentia: & nunquam cadunt: Hanc vocant modo Samathram: Est autem haec insula diuisa in quattuor regna: habens in circumitu .4000. miliaria italica. Legitur etiam: quod hi Alexandro magno auxilio venerunt: & urbem Rhomam aggressi: cum Rhomanis & Pompeio societatem contraxere.*
- 283 For discussion of the embassy from Taprobana to Rome during the reign of Claudius see also Chester G. Starr, "The Roman Emperor and the King of Ceylon," *Classical Philology* 51 (1956), pp. 27–30, as well as the works cited in the next note. Incidentally Sebastian Cabot on his world map of 1544 also has a legend about this embassy: see Charles Deane, "[Inscriptions on Cabot's Mapped monde]," *Proceedings of the Massachusetts Historical Society, Series 2*, Vol. 6 (1890–91), pp. 305–339, esp. pp. 322–323 (transcription) and 336 (translation), reprinted in H. R. Holmden, *Catalogue of Maps, Plans and Charts in the Map Room of the Dominion Archives* (Ottawa: Govt. Print. Bureau, 1912) = Publications of the Canadian Archives 8, pp. 575 (transcription) and 585–586 (translation).
- 284 For further discussion of Taprobane see Silvestri's *De insulis*, ed. Montesdeoca (see note 269), pp. 606–615; D.P.M. Weerakkody, *Taprobane: Ancient Sri Lanka as Known to Greeks and Romans* (Turnhout: Brepols, 1997); and Stefan Faller, *Taprobane im Wandel der Zeit: Das Sri-Lanka-Bild in griechischen und lateinischen Quellen zwischen Alexanderzug und Spätantike* (Stuttgart: Franz Steiner Verlag, 2000). The illustration of "Trapo" in *Les Merveilles du Monde*, Paris, BnF, MS fr. 22971, reproduced by Anne-Caroline Beaugendre in *Les merveilles du Monde, ou Les secrets de l'histoire naturelle* (Paris: Bibliothèque nationale de France, 1996), p. 70, emphasizes the ease of collecting precious stones on the island.
- 285 Fra Mauro in a legend on his map says *Nota che Tolomeo voiendo descriuer taprobana à descrito solamente saylam*, i.e. "Note that Ptolemy, when wanting to describe Taprobana, simply described Saylam"—that is, Sri Lanka. This legend is transcribed and translated by Falchetta, *Fra Mauro's World Map*, p. 225, \*215, and see Falchetta's commentary on p. 224. For further discussion of the confusion of these islands see Ananda Abeydeera, "Taprobane, Ceylan ou Sumatra? Une confusion féconde," *Archipel* 47 (1994), pp. 87–123; and the same author's "Une contribution portugaise à la cartographie des Grandes Découvertes. La découverte portugaise de Ceylan: problèmes de transition de la représentation ptoléméenne de Taprobana à Ceilao," *Studia* 54–55 (1996), pp. 211–239.
- 286 See Donald William Ferguson, "The Discovery of Ceylon by the Portuguese in 1506," *Journal of the Ceylon Asiatic Society* 19.59 (1907), pp. 284–385, who supplies many documents relating to early Portuguese visits to the island.
- 287 On Basacata or Bazacata see further W. J. van der Meulen, "Ptolemy's Geography of Mainland Southeast Asia and Borneo," *Indonesia* 19 (1975), pp. 1–32, esp. 30–31; Gerini, *Researches on Ptolemy's Geography of Eastern Asia*, pp. 379–404; and Suárez, *Early Mapping of Southeast Asia*, pp. 85–86.
- 288 For discussion of the *Bone fortune* islands see W. J. van der Meulen, "Suvarnavdīpa and the Chrysē Chersonēsos," *Indonesia* 18 (1974), pp. 1–40, esp. pp. 14–15, and Gerini, *Researches on Ptolemy's Geography of Eastern Asia*, pp. 411–420.

- 289 Maurice Vidal Portman, *A History of our Relations with the Andamanese, comp. from Histories and Travels, and from the Records of the Government of India* (Calcutta: Office of the Superintendent of Govt. Print., India, 1899), Vol. 1, p. 50. On Agathodaemon and his role in the creation of the maps in manuscripts of Ptolemy's *Geography* see J. B. Harley and David Woodward eds., *The History of Cartography* (Chicago: University of Chicago Press, 1987–) Vol. 1, pp. 271–272; and for older but more detailed discussions, Paul Dinse, "Die handschriftlichen Ptolemäus-Karten und die Agathodämonfrage," *Zeitschrift der Gesellschaft für Erdkunde zu Berlin* 1913, pp. 745–770; and Joseph Fischer, "Ptolemäus und Agathodämon," *Denkschriften der Kaiserliche Akademie der Wissenschaften in Wien, Philosophisch-Historische Klasse* 59.4 (1916), pp. 69–93.
- 290 I wish to thank Renate Burri for her suggestions regarding the *Bone fortune* islands.
- 291 For discussion of this Gulf in Ptolemy see Albert Herrmann, "Der Magnus Sinus und Cattigara nach Ptolemaeus," *Comptes Rendus du Congrès International de Géographie*, Amsterdam, 1938 (Leiden: Brill, 1938), Vol. 2, Sect. 4, pp. 123–128.
- 292 From *Luculentissima* f. 54v: *Zamzibar insula Habet miliaria .2000. italica in circumito: cuius incolae gigantibus equiparantur: quorum virorum vnus fertur habere fortitudinem quattuor virorum apud nos. ambulant nude: & sunt nigri: longis auribus: ora magna terribilia: manus maiores quam quattuor ex nostris ibi syluae Sandalorum. habent regem & linguam propriam: sunt idolatrae: abundant omnia genera specierum: ibi elephantum copia.*
- 293 Silvestri discusses Zanzibar in his *De insulis*, see pp. 658–659 in Montesdeoca's edition (see note 269).
- 294 The Lenox Globe, which is owned by the New York Public Library, is illustrated by a tracing in Nordenskiöld's *Facsimile-Atlas*, p. 75, Fig. 43; for general discussion of the globe see B. F. de Costa, "The Lenox Globe," *Magazine of American History* 3.9 (1879), pp. 529–540, reprinted in *Acta Cartographica* 4 (1969), pp. 120–134.
- 295 From *Luculentissima* f. 54v: *Madagascar insu. maxima in oceano indico: est ditior mundi totius cuius ambitus in circuitu continet miliaria italica .4000. incolae eius sunt Sarraceni Mahumetistae: non habens regem: habent nemora Sandalorum & omnia genera specierum. Elephantes. Leones Lynces: Leopardos: Ceruos: Damos. & omnia genera specierum.*
- 296 Silvestri describes Madagascar in his *De insulis*, pp. 376–381 in Montesdeoca's edition (see note 269); and there is an illustration of Madagascar in Paris, BnF, MS français 2810, f. 88r, which is reproduced in Gousset, *Le Livre des merveilles du monde*, p. 89.
- 297 Waldseemüller's legend runs: *Hic nascitur conchila maris que murex dicitur circum[c]iso ferro lacrimas rubeas emittit ex qua fit purpura que ostium appellant.* The word *ostium* is an error for *ostrum*. Compare Isidore 12.6.50, the *Experimentator* 5.18, and the *Hortus sanitatis*, "De piscibus" Chap. 58. The text of the *Experimentator* is supplied in Janine Deus, "Der 'Experimentator'—eine anonyme lateinische Naturenzyklopädie des frühen 13. Jahrhunderts," Dissertation, Universität Hamburg, 1998. The texts on the *murex* in Pliny 9.60 and Thomas of Cantimpré 7.22 are not similar to Waldseemüller's.
- 298 The abridged English translation of the *Hortus sanitatis* is *The noble lyfe a[nd] natures of man of bestes, serpentys, fowles a[nd] fisshes [that] be moste knoweu [sic]* (Antwerp: Emptred by me Ioh[a]n of Doesborowe, 1527?); this has been published in facsimile in Noel Hudson, *An Early English Version of Hortus sanitatis* (London: B. Quaritch, 1954); the chapter on the *murex* is Chap. 58, p. 146 in Hudson's facsimile.
- 299 Arnold Ritter von Harff, *The Pilgrimage of Arnold von Harff, Knight, from Cologne, through Italy, Syria, Egypt, Arabia, Ethiopia, Nubia, Palestine, Turkey, France and Spain, Which He Accomplished in the Years 1496 to 1499*, trans. Malcolm Letts (London: Hakluyt Society, 1946) = Works Issued by the Hakluyt Society, 2d ser., no. 94, p. 171 writes: "Item round about this island of Madagascar one finds in the sea many great snails called hanip, in Latin *murex*, from which snails and their shells they obtain very fine red dye with which the purple cloths are dyed, of which many are made there." On the connections between von Harff and Waldseemüller's 1507 map see Letts' introduction to his translation, pp. xvi–xvii, as well as his index s.v. "Waldseemüller"; and Ravenstein, *Martin Behaim*, p. 70. In my lecture "Evidence for a Lost Map Used by Waldseemüller in his Depiction of Eastern Africa and the Indian Ocean," delivered May 15, 2009, at the conference "Exploring Waldseemüller's World," May 14 and 15, 2009, at the Library of Congress, Washington, DC, I suggested that the com-

- mon source used by Waldseemüller and von Harff was a map very similar to the manuscript map by Henricus Martellus at Yale University.
- 300 See Alfred Stückelberger and Gerd Grasshoff, eds., *Klaudios Ptolemaios Handbuch der Geographie: griechisch-deutsch* (Basel: Schwabe Verlag, 2006), Vol. 2, pp. 728–729; the English translation is from J. W. McCrindle, *Ancient India as Described by Ptolemy* (Calcutta: Thacker, Spink, & Co.; London: Trübner, 1885), p. 236.
  - 301 From *Luculentissima* f. 54v: *Ioanna insula in qua panni de serico texti & porcellana vel bombex.*
  - 302 *Portugaliae monumenta cartographica*, Vol. 1, p. 13: *ilha ganaor em esta ilha a muto benjoym z seda z porcelanas*—"Ganaor Island: in this island there is much benzoin and silk and porcelain."
  - 303 Johannes Ruysch's map of 1507 is conveniently reproduced in Nebenzahl, *Atlas of Columbus*, pp. 48–49.
  - 304 See Jean Nicolas Buache, "Considérations géographiques sur les îles Dina et Marseveen," *Mémoires de l'Institut national des sciences et arts. Sciences morales et politiques*, 1st series, Vol. 4 (1801), pp. 367–381, esp. pp. 376–377; and Conrad Malte-Brun, *Universal Geography* (Boston: Wells and Lilly, 1826–31), Vol. 4, pp. 457–458; Auguste Toussaint, *Histoire de l'île Maurice* (Paris: Presses universitaires de France, 1974), p. 23; Alfred North-Coombes, *La découverte des Mascareignes par les Arabes et les Portugais: rétrospective et mise au point: contribution à l'histoire de l'Océan indien au XVIe siècle* (Port Louis, Mauritius: Service Bureau, 1979), pp. 26–31. The identifications cited above are those of Toussaint.
  - 305 For discussion of these islands in Ptolemy see van der Meulen, "Suvarnadvîpa" (see note 288), p. 15; Gerini, *Researches on Ptolemy's Geography of Eastern Asia*, pp. 420–424; and Richard Hennig, "Der Hafen Kattigara und der Magnetberg des Ptolemäus," *Klio* 23 (1929), pp. 256–276. For analysis of other myths of magnetic mountains and islands see A. Graf, "Un mito geografico (il monte della calamita)," in his *Miti, leggende, e superstizione del medio evo* (Turin: E. Loescher, 1892–93), pp. 363–375; Claude Lecouteux, "Die Sage vom Magnetberg," *Fabula* 25.1–2 (1984), pp. 35–65; and Caroline Cazanave, "L'île d'Aimant," in Jean-Claude Marimoutou and Jean-Michel Racault, eds., *L'insularité thématique et représentations: actes du colloque international de Saint-Denis de La Réunion, avril 1992* (Paris: L'Harmattan, 1995), pp. 37–46.
  - 306 *Portugaliae monumenta cartographica*, Vol. 1, p. 13: *Caleirciram* [?] *aquj he muyto clavo*—"Caleirciram—here there are plenty of cloves"; Suárez, *Early Mapping of Southeast Asia*, p. 127, suggests that the island may be a doublet of Ceylon, but this seems far-fetched.
  - 307 On the *Sinde* islands see van der Meulen, "Suvarnadvîpa" (see note 288), p. 30, who identifies them with the Sunda Islands; and Gerini, *Researches on Ptolemy's Geography of Eastern Asia*, pp. 449–456; Porro Gutiérrez, "La cartografía ptolemaica" (see note 254), p. 356 suggests that *Sinde* = *Simeulue*.
  - 308 For more on the *Daruse* islands see van der Meulen, "Surarnadvîpa," (see note 288), pp. 22–25, and Gerini, *Researches on Ptolemy's Geography of Eastern Asia*, pp. 427–446; Porro Gutiérrez, "La cartografía ptolemaica" (see note 254), p. 356 suggests that *Daruse* = *Tarasa*.
  - 309 On the *Sabaditae* see further Gerini, *Researches on Ptolemy's Geography of Eastern Asia*, pp. 446–449, and *Paulys Real-Encyclopädie der classischen Altertumswissenschaft*, Series 2, Vol. 1, Col. 1515; Porro Gutiérrez, "La cartografía ptolemaica" (see note 254), p. 356 suggests that *Sabadite* is *Sabang* or *Sinabang* or *Batu*.
  - 310 The anonymous gores of c. 1523–24 which have been attributed to Schöner are discussed by Franz von Wieser, "Der verschollene Globus des Johannes Schöner von 1523: Wieder aufgefunden und kritisch gewürdigt," *Sitzungsberichte der philosophisch-historische Classe der kaiserlichen Akademie der Wissenschaften*, Wien 117 (1888), no. 5 (18 pp.); and Henry Harris, *The Discovery of North America* (London: H. Stevens, 1892; Amsterdam: N. Israel, 1961), pp. 519–528; the gores are well reproduced in Frederik C. Wieder, "The Globe of Johannes Schöner, 1523–1524," in his *Monumenta Cartographica: Reproductions of Unique and Rare Maps, Plans and Views in the Actual Size of the Originals* (The Hague: M. Nijhoff, 1925–33), Vol. 1, pp. 1–4 and pl. 1–3. The part of the gores that contains this creature is also reproduced in Youssouf Kamal, *Monumenta cartographica Africae et Aegypti* (Cairo, 1926–51), Vol. 5, fasc. 1, f. 1519.
  - 311 From *Luculentissima* f. 53r: *Ibadium Id est ordeï insula: Haec est feracissima: & praeterea auri multum efficere dicitur.*

- 312 On *Ibadium* see Gerini, *Researches on Ptolemy's Geography of Eastern Asia*, pp. 458–466; the island of *Ybadium* is mentioned by Arnold Ritter von Harff, *The Pilgrimage of Arnold von Harff*, p. 161.
- 313 For discussion of the islands of the satyrs in Ptolemy see van der Meulen, "Suvarnavdîpa" (see note 288), p. 20, and Gerini, *Researches on Ptolemy's Geography of Eastern Asia*, pp. 707–724; on the satyrs in classical literature see Edward Tyson, *Orang-outang, sive, Homo sylvestris, or, The Anatomy of a Pygmie Compared with that of a Monkey, an Ape, and a Man: To Which is Added, A Philological Essay Concerning the Pygmies, the Cynocephali, the Satyrs and Sphinges of the Ancients* (London: Printed for Thomas Bennet... and Daniel Brown, 1699), pp. 45–55.
- 314 From *Portugaliae monumenta cartographica*, Vol. 1, p. 13: *ilha das baixas chamada fullucandora esta o norte em iij pulgadas*—"Island of the Shoals called fullucandora; lies iii inches north."
- 315 See W.A.R. Richardson, *Was Australia charted before 1606? The Jave la Grande Inscriptions* (Canberra: National Library of Australia, 2006), p. 82.
- 316 The transcription and translation of this legend by Stevenson, *Marine World Chart*, p. 115, are mistaken, and I take this transcription from Armando Cortesão, *Cartografia e cartógrafos portugueses dos séculos XV e XVI* (Lisbon: Seara Nova, 1935), Vol. 1, p. 155; and the translation from Gerald Roe Crone, *Maps and their Makers: An Introduction to the History of Cartography* (Folkstone: Dawson, and Hamden: Archon Books, 1978), p. 50.
- 317 From *Portugaliae monumenta cartographica*, Vol. 1, p. 13: *ilha de pussa ha desta jlha a terra firme lx legoas o norte em omze pulgadas z m<sup>a</sup>*—"Island of Pussa: from this island to the mainland there are lx leagues; it lies in eleven inches and a half north."
- 318 The legend describing the sirens on the Catalan Atlas is transcribed in *Mapamundi del año 1375*, p. 89; the legend on the lost late fourteenth-century Genoese map is supplied by Paviot, "Une mappemonde génoise disparue" (see note 242), p. 85, #67; and the legend on the Catalan-Estense map is transcribed by Ernesto Milano and Annalisa Batini, *Mapamundi Catalán Estense, escuela cartográfica mallorquina* (Barcelona: M. Moleiro, 1996), p. 203, and also by Kretschmer, "Die katalanische Weltkarte" (see note 172), p. 108. On two-tailed sirens see Edmond Faral, "La queue de poisson des Sirènes," *Romania* 74 (1953), pp. 433–506; Claude Lecouteux, *Les monstres dans la littérature allemande du Moyen Age: contribution à l'étude du merveilleux médiéval* (Göppingen: Kümmerle, 1982), Vol. 2, pp. 160–163; and Ilaria Domenici, "Osservazioni sopra un caso di permanenza iconografica: antecedenti e varianti della sirena bicaudata romanica," *Bollettino della Società Pavese di Storia Patria* 96 (1996), pp. 149–154.
- 319 From *Luculentissima* f. 55r: *Jaua maior insula Habens in ambitu eius miliaria italica .3000. Rex nulli est tributarius: sunt idolatre. In ea syluae nucum muscatarum Piperis: Spicae: Galangae: Garyofyli: & caeterorum aromatum copia.*
- 320 From *Luculentissima* f. 55r: *Angama insula Omnium aromatum referta. Habent capita deformata quasi canina: bestialiter viuunt: sunt idolatrae.*
- 321 See also Claude Lecouteux, "Les Cynocéphales: étude d'une tradition tératologique de l'Antiquité au XIIe siècle," *Cahiers de civilisation médiévale* 24.94 (1981), pp. 117–129. There is an illustration of the *cynocephali* of the Andaman islands in Paris, BnF, MS français 2810, f. 76v, which is reproduced by Gousset, *Le Livre des merveilles du monde*, p. 80.
- 322 Desceliers's 1550 map is conveniently reproduced in Nebenzahl, *Atlas of Columbus*, pp. 114–115; and in twelve sheets in black-and-white as Map 3 in James Ludovic Lindsay Crawford and Charles Henry Coote, *Autotype Facsimiles of Three Mappemondes* (Aberdeen: Aberdeen University Press, 1898).
- 323 From *Luculentissima* f. 55r: *Necura insula Regem non habent. ibi nemora maxima Sandalorum rubeorum: & diversorum aromatum. idolatrae sunt: bestialiter viuunt: & nudi incedunt.*
- 324 From *Luculentissima* f. 55r: *Peutan insula Siluestris valde: ibi nemora arborum magni odoris & utilitatis: etiam copia aromatum: sunt idolatrae: ibi Syluae Sandalorum. Prope eam in mari Perlae piscantur.* There is an illustration of this island in Paris, BnF, MS français 2810, f. 74v, which is reproduced by Gousset, *Le Livre des merveilles du monde*, p. 79.
- 325 From *Luculentissima* f. 54v: *Seyla insula Vna de maioribus & melioribus mundi: habens in circumitu miliaria .2040. Habent regem ditissimum: nemini tributarium. Sunt idolatrae: omnes nudi ambulat: nullum bladum habent: riso excopto. habent preciosos lapides.*

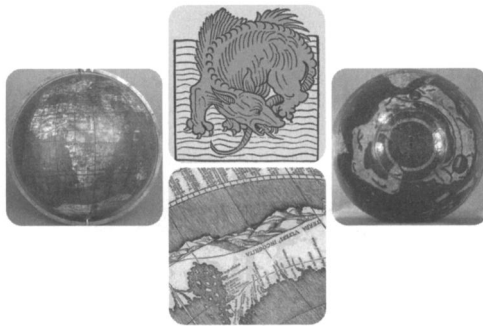
- 326 From *Luculentissima* f. 55r: *Jaua minor insula Cuius ambitus est .2000. miliariorum italicorum. ibi polus Arcticus videri non potest: in ea sunt octo regna: linguam habent propriam: sunt idolatrae: ibi omnium aromatum copia est.*
- 327 See also J. T. Thomson, "Marco Polo's Six Kingdoms or Cities in Java Minor, Identified in Translations from the Ancient Malay Annals," *Proceedings of the Royal Geographical Society of London* 20.3 (1875–76), pp. 215–218 and 220–224. There is an illustration of the island in Paris, BnF, MS français 2810 f. 74v which is reproduced by Gousset, *Le Livre des merveilles du monde*, p. 79; also in Oxford, Bodleian Library, MS Bodley 264, f. 262v, which shows the inhabitants as idolaters.
- 328 From *Luculentissima* f. 55r: *Zipangri insula Distat versus orientem a littore mango per miliaria .1500. Est magna valde. Habent regem nulli tributum persolvens. Cuius inhabitatores idolatrae sunt. Aurum in maxima copia habent. Sed de facili eum extra insulam portare non permittunt. Lapidés habent preciosos de omni genere. Est ditissima valde supra modum. ibi sylvae de lingo Sethin: & Spicanardi: Zinziberis: Garyoflorum: Cinnamomi: Nucum muscatarum: Piperis.*
- 329 For discussion and a reproduction of the Albertin de Virga world map see Destombes, *Mappemondes*, pp. 205–207 and Plate 28; the current location of the map is unknown but it was reproduced in facsimile in Franz von Wieser, *Die Weltkarte des Albertin de Virga aus dem Anfange des XV. Jahrhunderts in der Sammlung Figdom in Wien* (Innsbruck: Heinrich Schurick, 1912), and in Youssouf Kamal, *Monumenta cartographica Africae et Aegypti* (Cairo, 1926–51), Vol. IV, fasc. III, f. 1377.
- 330 Cipangu is illustrated in Paris, BnF, MS français 2810, f. 71r, which is reproduced in Gousset's *Le Livre des merveilles du monde*, p. 76. The early European cartography of the island is discussed by Pál Teleki, *Atlas zur Geschichte der Kartographie der Japanischen Inseln* (Budapest, 1909; Nendeln, Liechtenstein: Kraus Reprint, 1966), pp. 3–11 and Plate 1; and Wilcomb E. Washburn, "Japan on Early European Maps," *Pacific Historical Review* 21.3 (1952), pp. 221–236; curiously E. W. Dahlgren, *Les débuts de la cartographie du Japon* (Upsal: K. W. Appelberg, 1911), does not discuss early sixteenth-century cartographic representations of Japan in detail. It should be mentioned that the final map in the Florence manuscript of Henricus Martellus's *Insularium illustratum* (Biblioteca Medicea Laurenziana, Pluteo 29.25, f. 76r) is a map of Japan, and it is illustrated in Roberto Almagià, "I mappamondi di Enrico Martello e alcuni concetti geografici di Cristoforo Colombo," *La Bibliofilia* 42 (1940), pp. 288–311, esp. p. 303, and Sebastiano Gentile, *Firenze e la scoperta dell'America: umanesimo e geografia nel '400 fiorentino* (Florence: L. S. Olschki, 1992), Plate 46; and see George Kish, "Two Fifteenth-Century Maps of 'Zipangu': Notes on the Early Cartography of Japan," *The Yale University Library Gazette* 40.4 (1966), pp. 206–214. The map of Japan does not appear in other manuscripts of Martellus's *Insularium*. Behaim's legends on Cipangu, transcribed and translated by Ravenstein, *Martin Behaim*, p. 89, depend on Marco Polo but Behaim also adds information about spices which does not come from Polo. For discussion of Polo's description of Japan see K. Enoki, "Marco Polo and Japan," in *Oriente Poliano: studi e conferenze tenute all'Is. M.E.O. in occasione del VII centenario della nascita di Marco Polo (1254–1954)* (Rome: Istituto Poligrafico dello Stato, 1957), pp. 23–44, esp. 23–36.
- 331 On the island of Chryse see Pomponius Mela 3.7, Pliny 6.80, Solinus 52.17, and Isidore 14.6.11.
- 332 The author of the *Hortus sanitatis* quotes the *Physiologus* as his source here, but there is no chapter on dolphins in the *Physiologus*; Pliny 9.7.20 and Thomas of Cantimpré 6.16 say that dolphins have their faces in their bellies.
- 333 The *draco marinus* is mentioned by Pliny 9.43.82 and is described by Isidore 12.6.42, which text is copied in Third Family bestiaries, but not in other families; and also by Thomas of Cantimpré 6.15. It is worth mentioning that Waldseemüller, in a legend off the eastern tip of Africa discussed above, suggests that the leviathan is equivalent to a *draco marinus*, and Schöner follows him in the corresponding legend on his 1520 globe, though the leviathan is a different creature.
- 334 This legend is transcribed and translated by Edward Luther Stevenson, *Genoese World Map, 1457* (New York: American Geographical Society and Hispanic Society of America, 1912), p. 25; and by Angelo Cattaneo, *Mappa mundi 1457* (Rome: Treccani, 2008), p. 180; on Candia or Candyn see also Suárez, *Early Mapping of Southeast Asia*, p. 109. Behaim has a long leg-

- end by the island that says no more than that the Candyn is far to the south; for the text and translation of this legend and for some proposed identifications of the island see Ravenstein, *Martin Behaim*, p. 88, who mentions among others the possible identification with the island Dondin described by Odoric of Pordenone.
- 335 In Thomas of Cantimpré 6.31 the *echinus* is described as a curious mixture of a remora and sea urchin (the usual meaning of *echinus*), but the author of the *Hortus sanitatis* focuses on the idea that the *echinus marinus* is the marine counterpart of the terrestrial hedgehog. On the idea that there was a correspondence between marine and terrestrial animals see Jacqueline Leclercq-Marx, "L'idée d'un monde marin parallèle du monde terrestre: émergence et développements," in Chantal Connochie-Bourgne, ed., *Mondes marins du Moyen Âge: Actes du 30e colloque du CUER MA, 3, 4 et 5 mars 2005* (Aix-en-Provence: Université de Provence, 2006), pp. 259–271.
- 336 The sketch of Schöner's 1520 globe in Wieser, *Magalhães-Strasse*, Plate 1, incorrectly shows this creature moving to the east; on the globe itself it is moving to the west.
- 337 For discussion of the history of the idea of a southern continent, see Armand Rainaud, *Le continent austral; hypothèses et découvertes* (Paris: A. Colin, 1893; Amsterdam: Meridian, 1965); Wieser, *Magalhães-Strasse*, pp. 59–73; Gabriella Moretti, "Viaggi verso l'irraggiungibile, notizie dall'altro mondo. Le comunicazione con gli antipodi fra dottrina, mito, e letteratura," in G. Camassa and S. Fasce, eds., *Idea e realtà del viaggio: il viaggio nel mondo antico* (Genoa: ECIG, 1991), pp. 367–386; and Benjamin Olshin, "The Antipodes, the Antarctic Continent, and the Spherical Earth," in his "A Sea Discovered: Pre-Columbian Conceptions and Depictions of the Atlantic Ocean," Ph.D. Dissertation, University of Toronto, 1994, pp. 264–318. I did not find Patricia Gilmartin's "The Austral Continent on 16th Century Maps: An Iconological Interpretation," *Cartographica* 21 (1984), pp. 38–52, to be very helpful.
- 338 An interesting difference between the southern continents on Schöner's 1515 globe and the Green Globe is that the Green Globe has a Portuguese flag in or just adjacent to the northern coast of the southern continent, to the southeast of the southern tip of Africa, and an adjoining legend that reads *Hec insulae ex mandato re[gis] [Por]tugaliae lustrate sunt*, that is, "These islands were discovered through the command of the King of Portugal." This is probably an allusion to the Portuguese voyage described in the pamphlet *Copia der Newen Zeytung auß Presillg Landt*, which seems to have influenced Schöner's depiction of the southern continent. The pamphlet is reproduced in facsimile and translated, with commentary, by Mark Graubard and John Parker, *Copia der newen Zeytung aus Presillg Landt, Tidings out of Brazil* (Minneapolis: University of Minnesota Press, 1957); the text is also supplied (pp. 99–107) and discussed by Wieser, *Magalhães-Strasse und Austral-Continent*.
- 339 Incidentally the legend describing South America on Johannes Ruysch's world map of 1507 says that the inhabitants live to be 150; this map is reproduced in Nebenzahl, *Atlas of Columbus*, pp. 48–49.
- 340 As I mentioned in the Introduction in my discussion of Schöner's depiction of a sailing passage around the southern tip of South America, at least part of Schöner's inspiration for his depiction of this part of his globe was a rare German pamphlet, *Copia der Newen Zeytung auß Presillg Landt*, according to which a Portuguese expedition of two vessels had tried to sail through this passage from the east, but was forced back by contrary winds.
- 341 Chet Van Duzer, "The Cartography, Geography, and Hydrography of the Southern Ring Continent, 1515–1763," *Orbis Terrarum* 8 (2002), pp. 115–158.
- 342 The Anglo-Saxon world map is British Library, Cotton MS Tiberius B.V, f. 56v, and is illustrated in Leo Bagrow, *History of Cartography*, revised and enlarged by R. A. Skelton (Cambridge, MA: Harvard University Press, 1964), Plate 17, and in Harvey, *Medieval Maps*, p. 26; the "Henry of Mainz" or Sawley world map is Cambridge, Corpus Christi College, MS 66, p. 2, and is illustrated in Harvey, *Medieval Maps*, p. 24; the Isidore world map is Munich, Bayerische Staatsbibliothek, Clm 10058, f. 154v, and is illustrated in Harvey, p. 22; the Ebstorf and Hereford *mappaemundi* are illustrated in Bagrow, Plates E and 24, and in Harvey, pp. 28 and 29; one of the most elaborate of the Ranulf Higden maps is that in British Library, Royal MS 14 C.IX, ff. 1v–2r, and it is illustrated in Bagrow, Plate 21 and in Harvey, p. 34.

- 343 On Mela's theory about the Nile see Danielle Bonneau, *La crue du Nil, divinité égyptienne* (Paris: Cujas, 1964), pp. 174–176; and Brigitte Postl, *Die Bedeutung des Nil in der römischen Literatur* (Vienna: Verlag Notring, 1970), pp. 27–33. Joannes Baptista Scortia briefly discusses and dismisses the theory that the Nile arises in the antipodes in a chapter titled "An Nilus aestivo Solstitio crescat quod tunc hyems sit apud Antichthones, unde oriatur & ad nos defluat?" in his *De natura et incremento Nili libri duo* (Lyons, 1617), pp. 131–133. For fuller discussion of all aspects of Schöner's southern continent, including citations of classical, medieval, and Renaissance authors who believed in subterranean river channels, see my article in *Orbis Terrarum* cited above in note 341.
- 344 There is a good photograph of the southern continent on the Frankfurt globe in Ernst Vater, "Der Globus des Johannes Schöner von 1515," *Frankfurter Geographische Hefte* 11 (1937), pp. 160–179, Plate 10.
- 345 For discussion of the movement of the toponym *Brasilie Regio* see W. A. R. Richardson, "Mercator's Southern Continent: Its Origins, Influence and Gradual Demise," *Terrae Incognitae* 25 (1993), pp. 67–98, esp. pp. 82–86, the article is reprinted in Tony Ballantyne, ed., *Science, Empire, and the European Exploration of the Pacific* (Aldershot: Ashgate, 2004), pp. 12–42; see also Walter B. Scaife, "Brazil, as a Geographical Appellation," *Modern Language Notes* 5.4 (1890), pp. 105–107. Oronce Fine's 1531 and 1566 maps are reproduced in Nordenskiöld, *Facsimile-Atlas*, Plate 41 and Fig. 53, respectively. The Nancy Globe is illustrated in Nordenskiöld, *Periplus*, p. 159, Fig. 74; see also B. F. de Costa, "The Nancy Globe," *Magazine of American History* 1881, pp. 183–187; reprinted in *Acta Cartographica* 4 (1969), pp. 135–141.
- 346 The Saint-Sever Beatus is Paris, Bibliothèque nationale de France, MS lat. 8878, and the map appears on ff. 45bisv–45terr. The manuscript has been reproduced in facsimile in Beatus of Liébana, *Comentario al Apocalipsis y al Libro de Daniel* (Madrid: Edilán, 1984). This map, the most elaborate of the Beatus maps, is widely reproduced, and the toponyms are transcribed in Miller, *Mappaemundi*, Vol. 1, pp. 41–61.
- 347 The Peutinger Map is Vienna, Österreichische Nationalbibliothek, Codex Vindobonensis 324, and has been reproduced in full several times, for example in *Tabula Peutingeriana: Codex Vindobonensis 324* (Graz, Austria: Akademische Druck- u. Verlagsanstalt, 1976); and Luciano Bosio, *La Tabula Peutingeriana: una descrizione pittorica del mondo antico* (Rimini: Maggioli, 1983). In the latter book see p. 143, Fig. 44 for a color detail showing the lake enclosed by mountains. Unfortunately the book *Tabula Peutingeriana: le antiche vie del mondo*, ed. Francesco Prontera (Florence: L. S. Olschki, 2003) includes only a reproduction of a colored copy of Konrad Miller's tracing of the map, rather than photographs of the original. In Miller's edition and in Prontera's the lake is in segment 8.4–5, rather than 7.4–5.
- 348 On the legends shared by the Saint-Sever Beatus *mappamundi* and the Peutinger Map see E. Schweder, "Über eine Weltkarte des achten Jahrhunderts," *Hermes* 24.4 (1889), pp. 587–604, esp. pp. 594–603.
- 349 Bianco's atlas has been reproduced in facsimile twice; first in black and white as *Der Atlas des Andrea Bianco vom Jahre 1436: in 10 Tafeln, photographische Facsimile in der Grösse des Originals*, ed. Oscar Peschel (Venice: H.F. & M. Münster, 1869); and in color as *Andrea Bianco, Atlante nautico, 1436*, ed. Piero Falchetta (Venice: Arsenale, 1993). There are digital images of the atlas's maps in Ramon J. Pujades i Bataller, *Les cartes portolanes: la representació medieval d'una mar solcada* (Barcelona: Institut Cartogràfic de Catalunya, 2007), on the accompanying DVD, number A18; and there are also reproductions of four maps from Bianco's atlas (including map 9) in A. E. Nordenskiöld, *Periplus* (New York: B. Franklin, 1967), plates 20–21.
- 350 The Girolodi atlas in the Ambrosiana is briefly discussed by Paolo Revelli, *I codici ambrosiani di contenuto geografico con XX tavole fuori testo* (Milan: L. Alfieri, 1929), p. 183. Digital images of all of the maps in these three Girolodi atlases have been published in Ramon J. Pujades i Bataller, *Les cartes portolanes: la representació medieval d'una mar solcada* (Barcelona: Institut Cartogràfic de Catalunya, 2007), on the accompanying DVD, numbers A19 (Milan), A20 (Florence), and A22 (Chicago).
- 351 The anonymous "Kunstmann III" map of c. 1506, which is now lost, is illustrated in Friedrich Kunstmann, *Die Entdeckung Amerikas* (Munich: A. Asher & Cie, 1859), atlas vol-

ume, Plate 3; Edward Luther Stevenson, ed., *Maps Illustrating Early Discovery and Exploration in America, 1502–1530* (New Brunswick, NJ, 1903), map 2; and in *Portugaliae monumenta cartographica*, Vol. 1, Plate 6, with a brief discussion of the map on pp. 15–16. There is a color redrawing of the map made by Otto Progel c. 1843, which is Paris, BnF, Rés Ge. B. 1120, and which is reproduced by Ivan Kupcák, *Münchener Portolankarten: Kunstmann I–XIII und zehn weitere Portolankarten = Munich Portolan Charts: Kunstmann I–XIII and Ten Other Portolan Charts* (Munich: Deutscher Kunstverlag, 2000), p. 39.





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# IMAGES



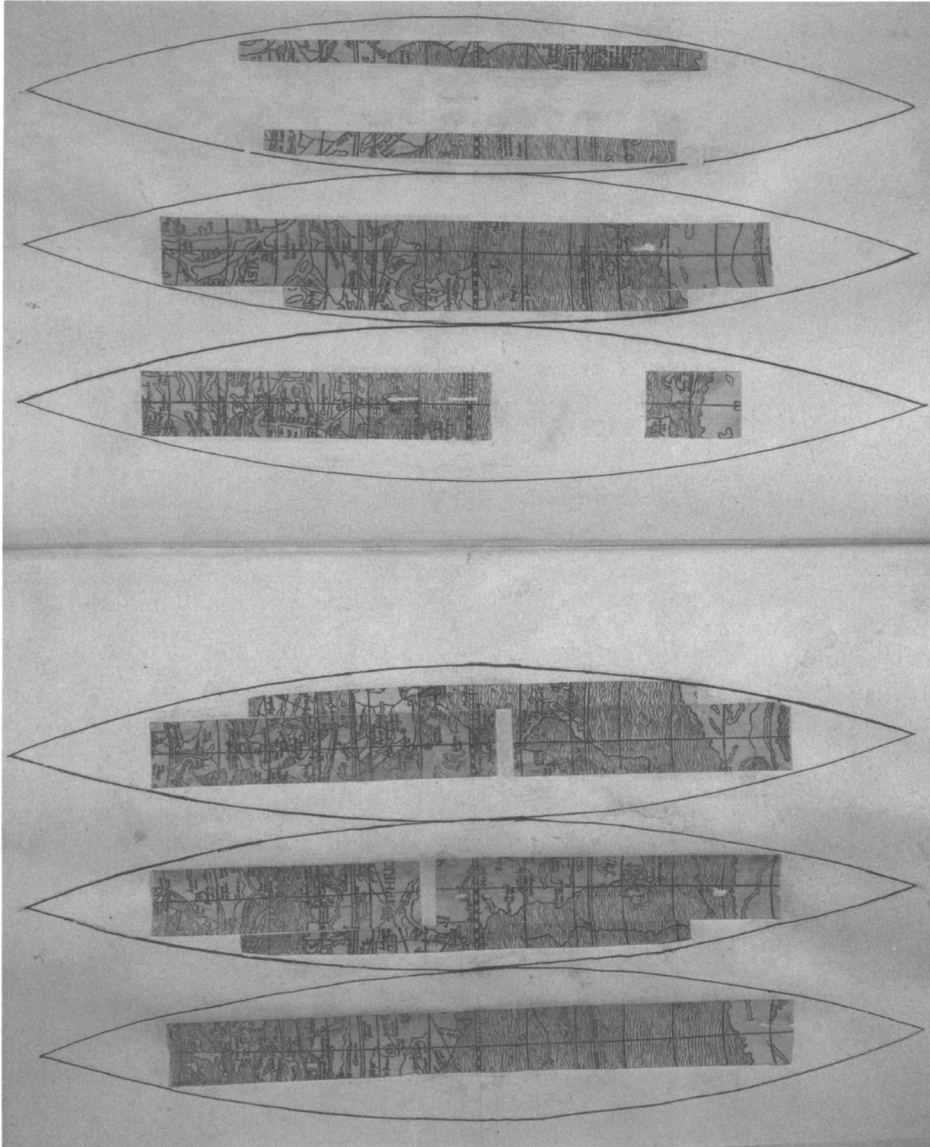
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Fig. 1. The Frankfurt exemplar of Schöner's 1515 globe (Historisches Museum, HMF X 14610). Photograph by Uwe Dettmar. With permission of the Historisches Museum Frankfurt.



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Fig. 2. The Weimar exemplar of Schöner's 1515 globe, in the Herzogin Anna Amalia Bibliothek, Stiftung Weimarer Klassik (inventory nr. E I 125). With permission of the Stiftung Weimarer Klassik.



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Fig. 3. The Library of Congress fragments of the gores of Schöner's 1515 globe, showing Africa and Asia (see pp. 1–2). Courtesy of the Library of Congress.

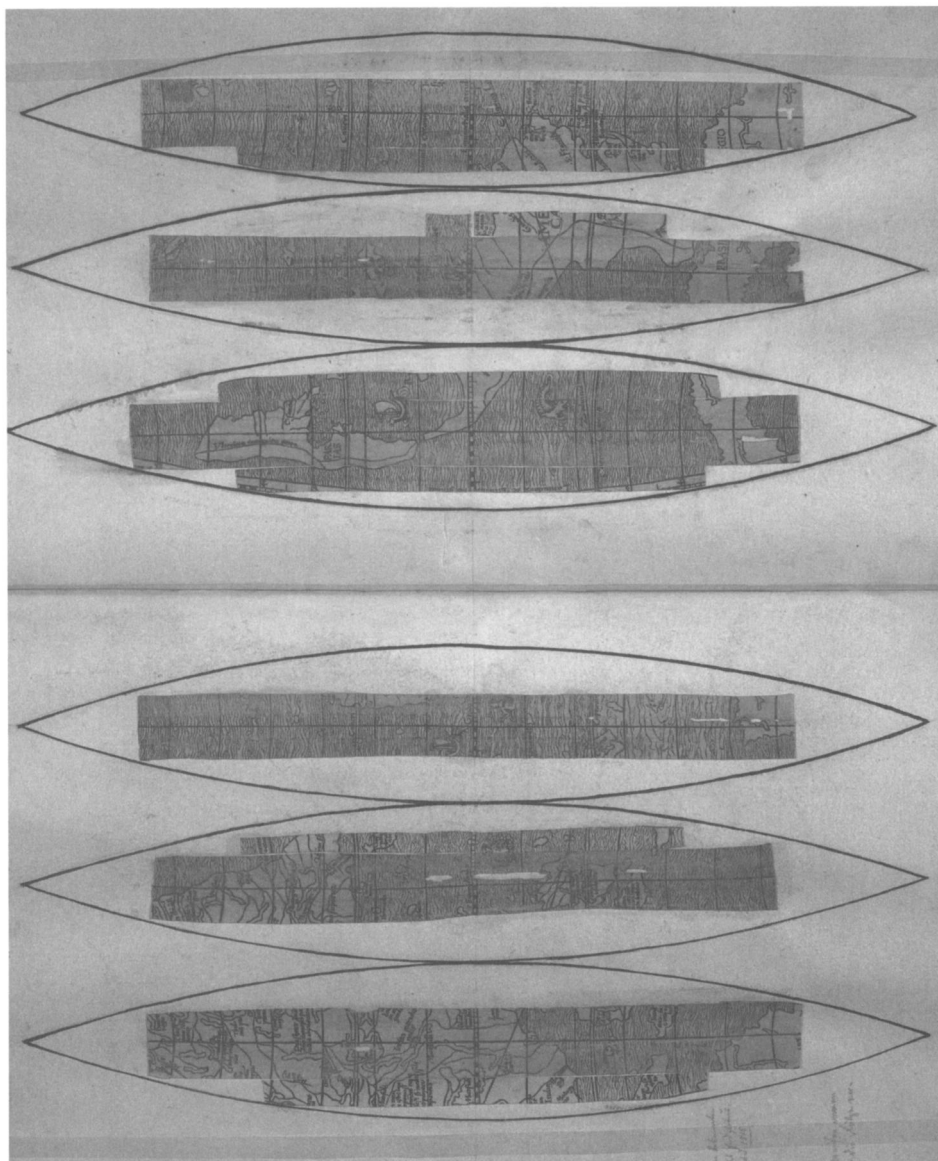


Fig. 4. The Library of Congress fragments of the gores of Schöner's 1515 globe, showing Asia and the Americas (see pp. 1–2). Courtesy of the Library of Congress.

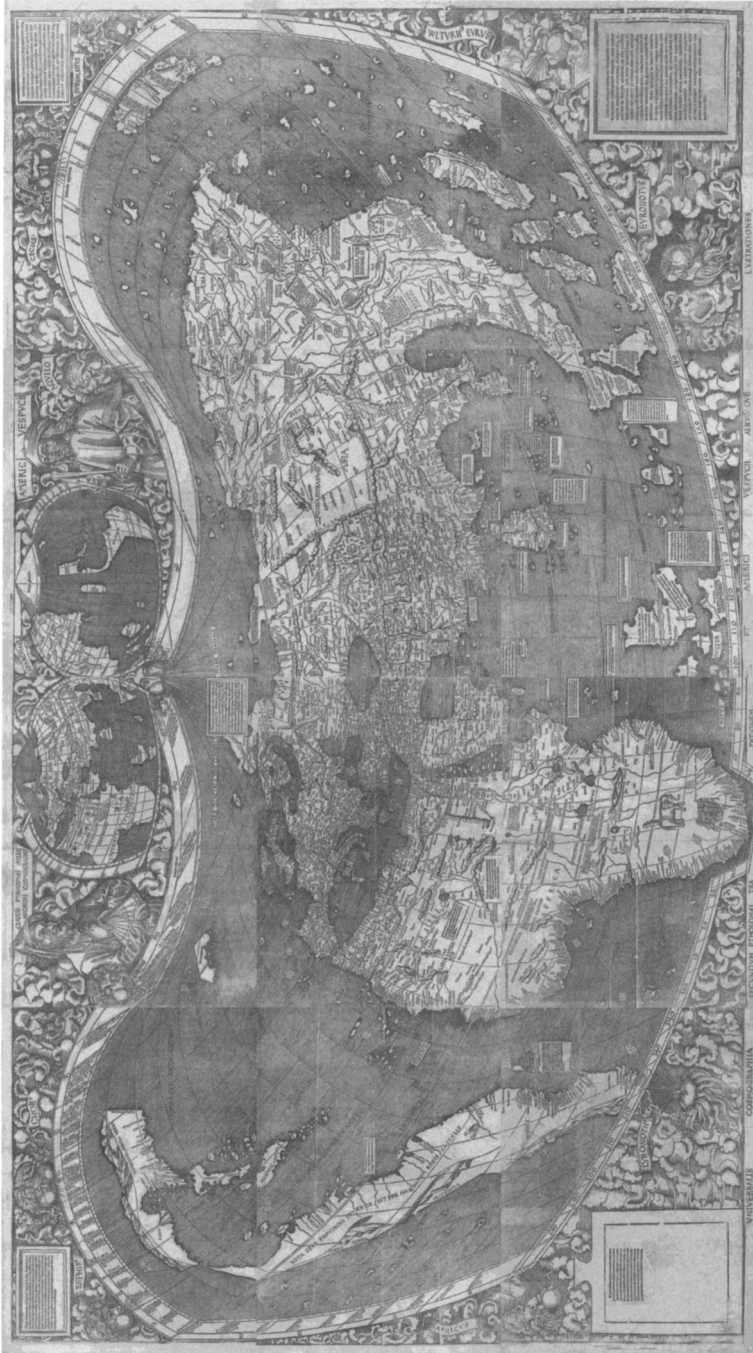
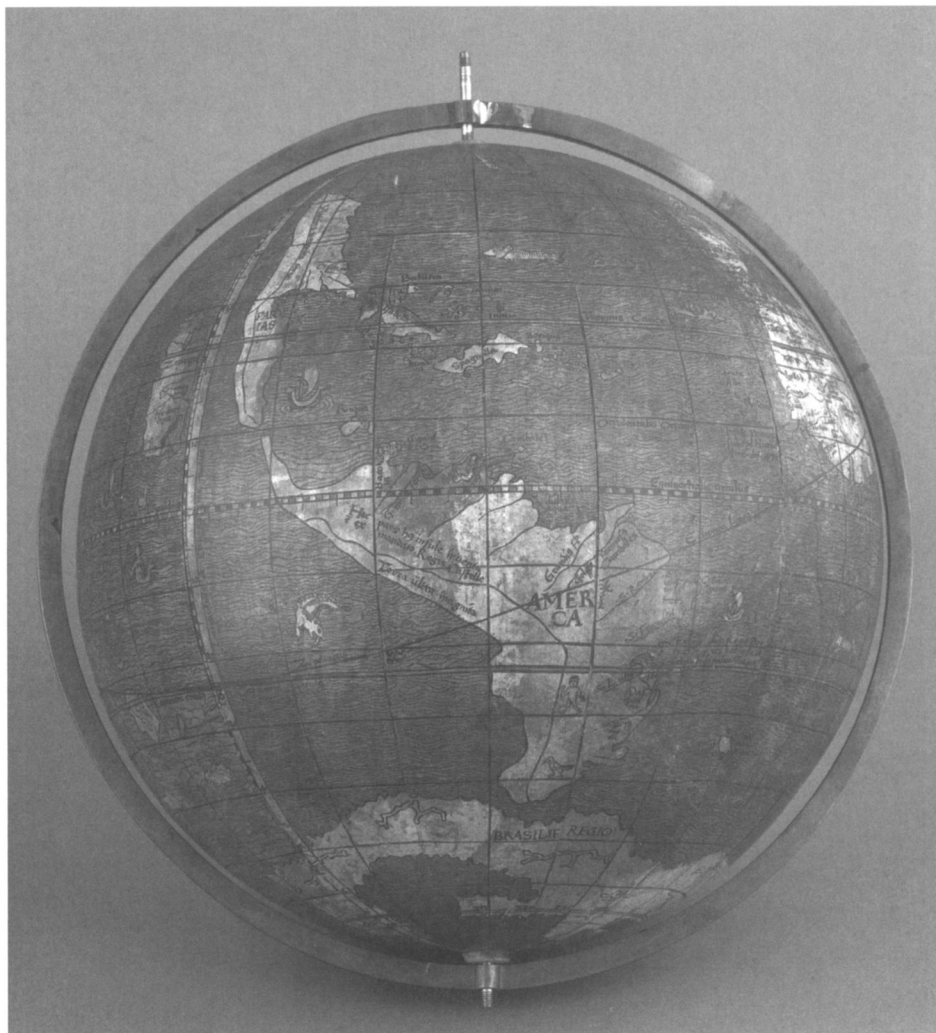


Fig. 5. Martin Waldseemüller's 1507 world map (see esp. p. 2). Courtesy of the Library of Congress.



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Fig. 6. The Americas on the Frankfurt globe (see pp. 9–15). Photograph by Uwe Dettmar. With permission of the Historisches Museum Frankfurt.

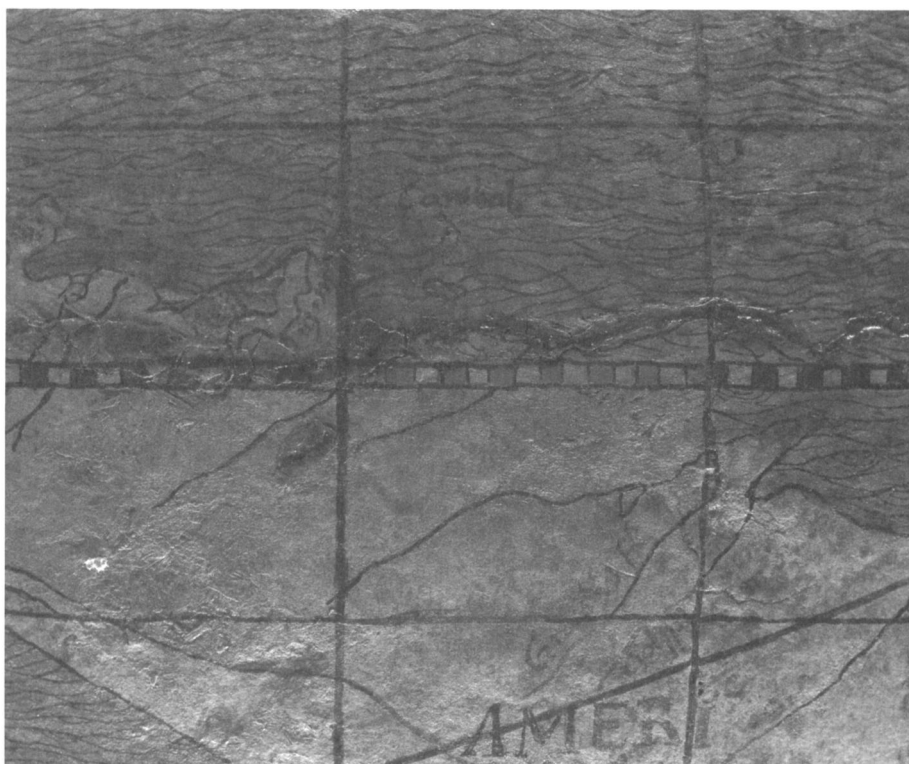


Fig. 7. The North Atlantic on the Frankfurt globe (see pp. 19–23). Photograph by Uwe Dettmar. With permission of the Historisches Museum Frankfurt.





Fig. 8. The eastern coast of South America on the Frankfurt globe (compare Fig. 9 and see p. 12 on *dulcis aqua*). Photograph by Uwe Dettmar. With permission of the Historisches Museum Frankfurt.

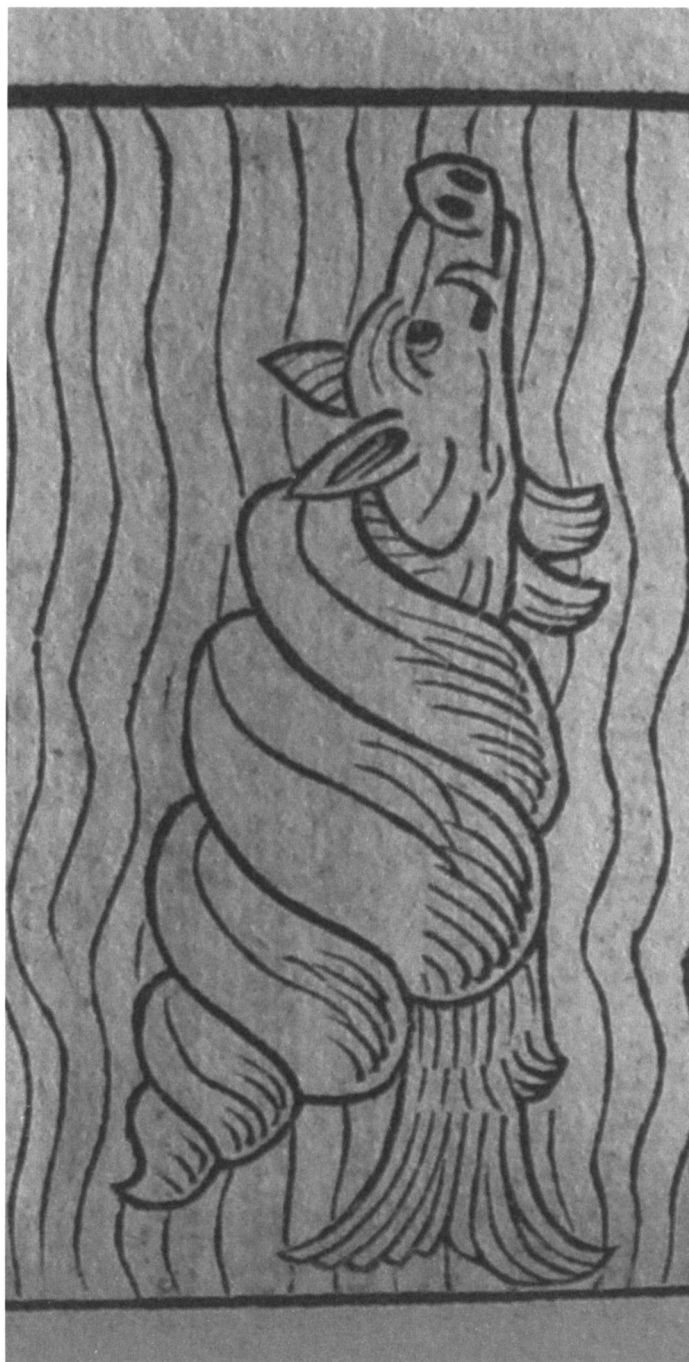


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Fig. 9. The eastern coast of South America on the Weimar globe; comparison with the Frankfurt exemplar (see Fig. 8) show that this globe has been modified during "restoration." With permission of the Stiftung Weimarer Klassik.



Fig. 10. The sea monster near Madera on the Frankfurt globe (see p. 22 and compare Fig. 11). Photograph by Uwe Dettmar. With permission of the Historisches Museum Frankfurt.



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Fig. 11. The sea monster from the *Hortus sanitatis*, "De piscibus," Chapt. 28 (see p. 22 and compare Fig. 10). From the Mainz 1491 edition published by Jacob Meydenbach. Courtesy of the Library of Congress.

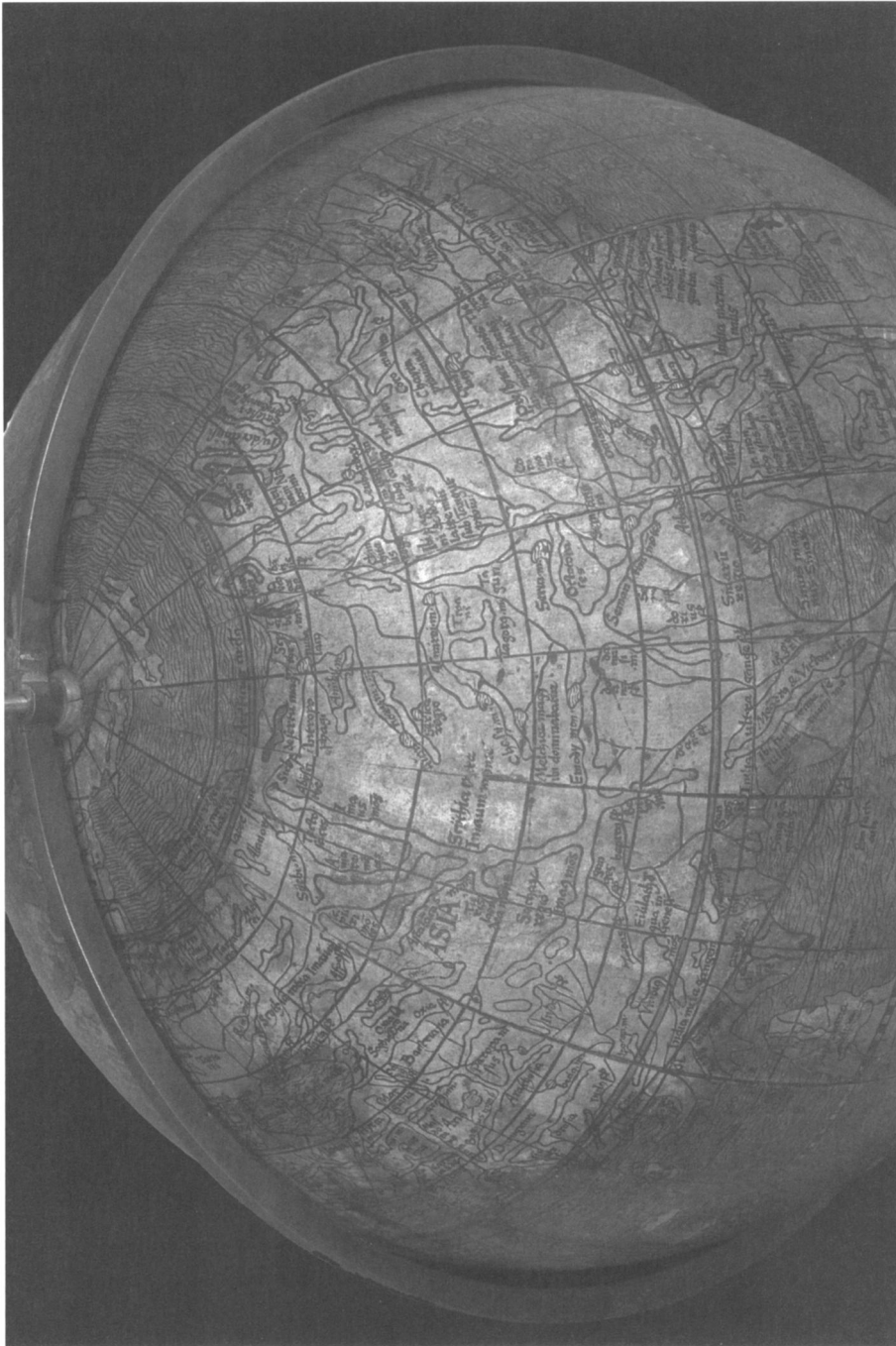


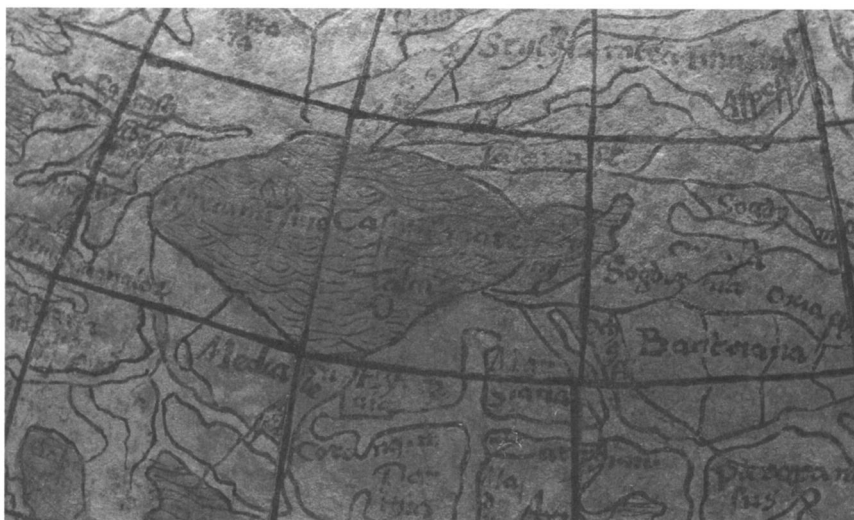
Fig. 12. Northern Asia on the Frankfurt globe (see pp. 50–61). Photograph by Uwe Dettmar. With permission of the Historisches Museum Frankfurt.





Fig. 14. The Caspian Sea on the Frankfurt globe (see the Introduction, p. 4, and pp. 52–53; compare Fig. 15). Photograph by Uwe Dettmar. With permission of the Historisches Museum Frankfurt.





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Fig. 15. The Caspian Sea on the Weimar globe, showing incorrect "restoration" in the eastern end of the sea (see the Introduction, p. 4, and pp. 52–53; compare Fig. 14). With permission of the Stiftung Weimarer Klassik.





Fig. 16. The *Sinus Persicus* on the Frankfurt globe (see the Introduction, pp. 3–4, and pp. 62–63 and 66; compare Fig. 17). Photograph by Uwe Dettmar. With permission of the Historisches Museum Frankfurt.



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Fig. 17. The *Sinus Persicus* on the Weimar globe, showing incorrect "restoration" (see the Introduction, pp. 3–4, and pp. 62–63 and 66; compare Fig. 16). With permission of the Stiftung Weimarer Klassik.



Fig. 18. Southern Asia on the Frankfurt globe; see pp. 57 and 71. Photograph by Uwe Dettmar. With permission of the Historisches Museum Frankfurt.



Fig. 19. *Quiritaria provin.* in southern Asia on the Frankfurt globe (see p. 78; compare Fig. 20). Photograph by Uwe Dettmar. With permission of the Historisches Museum Frankfurt.



Fig. 20. *Quiritaria provin.* in southern Asia on the Weimar globe, showing the different, "restored" coastline (see p. 78; compare Fig. 19). With permission of the Stiftung Weimarer Klassik.



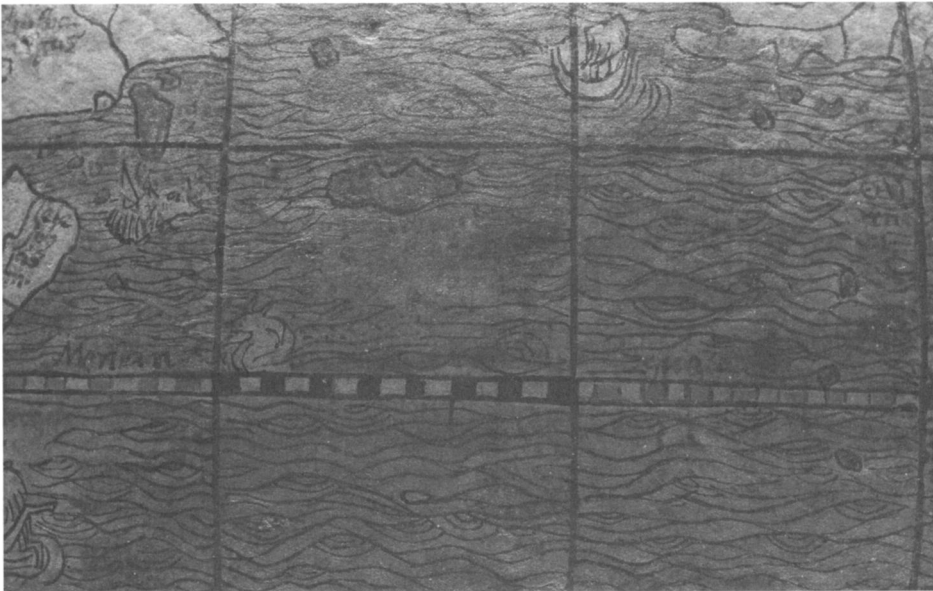


Fig. 22. The northern Indian Ocean on the Weimar globe; note that the ship is entirely different from the corresponding ship on the Frankfurt globe, as are the two sea monsters in the west (see pp. 79–80; compare Fig. 21). With permission of the Stiftung Weimarer Klassik.



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Fig. 23. The sea monster east of *S. Laurentii* (Madagascar) on the Weimar globe (compare Fig. 24; see also Fig. 3 and p. 81). With permission of the Stiftung Weimarer Klassik.





Fig. 24. The *orcha* from the *Hortus sanitatis*, "De piscibus," Chap. 64; see p. 81 and compare Fig. 23. From the Mainz 1491 edition published by Jacob Meydenbach. Courtesy of the Library of Congress.



Fig. 25. Portrait of Diogo Lopes de Sequeira, from Morgan Library MS M. 525, f. 6r (see pp. 81–82 and Appendix 4). With permission of the Morgan Library.



Fig. 26. The southern Indian Ocean on the Frankfurt globe (see pp. 94–95). Photograph by Uwe Dettmar. With permission of the Historisches Museum Frankfurt.



Fig. 27. Madagascar and the *murex* (above) on the Frankfurt globe (compare Fig. 28; see p. 88). Photograph by Uwe Dettmar. With permission of the Historisches Museum Frankfurt.

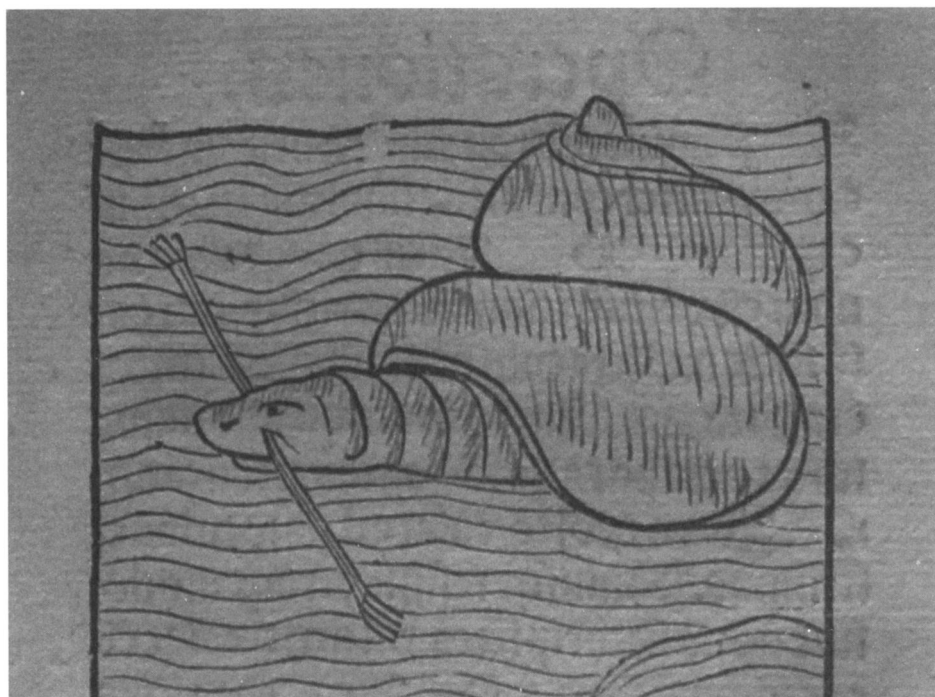


Fig. 28. The murex from the *Hortus sanitatis*, "De piscibus," Chap. 58; compare Fig. 27; see p. 88. From the Mainz 1491 edition published by Jacob Meydenbach. Courtesy of the Library of Congress.



Fig. 29. Necuram and Java with Angama to the south on the Frankfurt globe (compare Figs. 26 and 30 and see pp. 3 and 94–95). Photograph by Uwe Dettmar. With permission of the Historisches Museum Frankfurt.



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Fig. 30. Peutan, Necuram, and Java on the Weimar globe, but Angama is missing (compare Fig. 29 and see pp. 3 and 94–95). With permission of the Stiftung Weimarer Klassik.





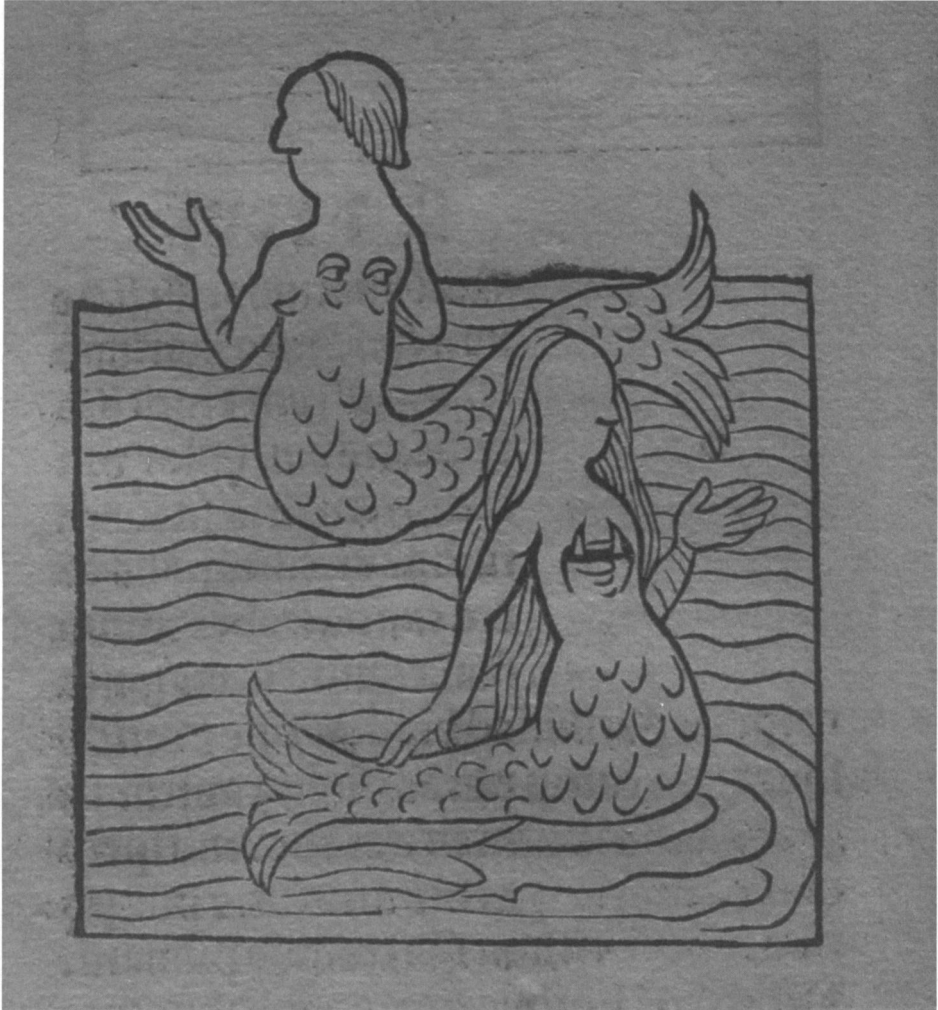
Fig. 31. Japan, a ship, and a dolphin on the Frankfurt globe (compare Figs. 4 and 32 and see pp. 4 and 98–99). Photograph by Uwe Dettmar. With permission of the Historisches Museum Frankfurt.





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Fig. 32. Japan, a very different ship, and no dolphin on the Weimar globe (compare Fig. 31 and see pp. 4 and 98–99). With permission of the Stiftung Weimarer Klassik.



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Fig. 33. The dolphin from the *Hortus sanitatis*, "De piscibus," Chap. 27 (compare Fig. 31 and see p. 99). From the Mainz 1491 edition published by Jacob Meydenbach. Courtesy of the Library of Congress.



Fig. 34. The sea monster west of South America on the Frankfurt globe (compare Fig. 35 and see p. 99). Photograph by Uwe Dettmar. With permission of the Historisches Museum Frankfurt.

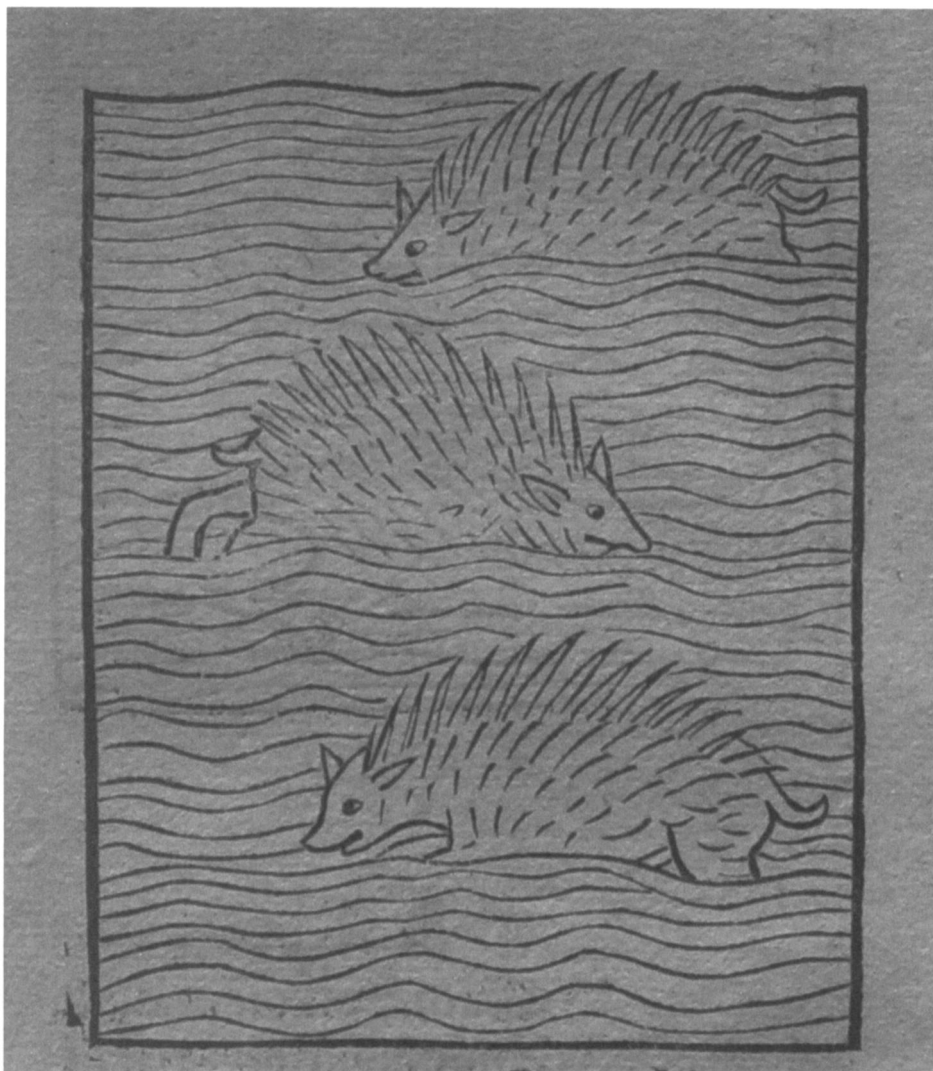


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Fig. 35. The *draco marinus* from the *Hortus sanitatis*, "De piscibus," chapt. 26 (compare Fig. 34 and see p. 99). From the Mainz 1491 edition published by Jacob Meydenbach. Courtesy of the Library of Congress.

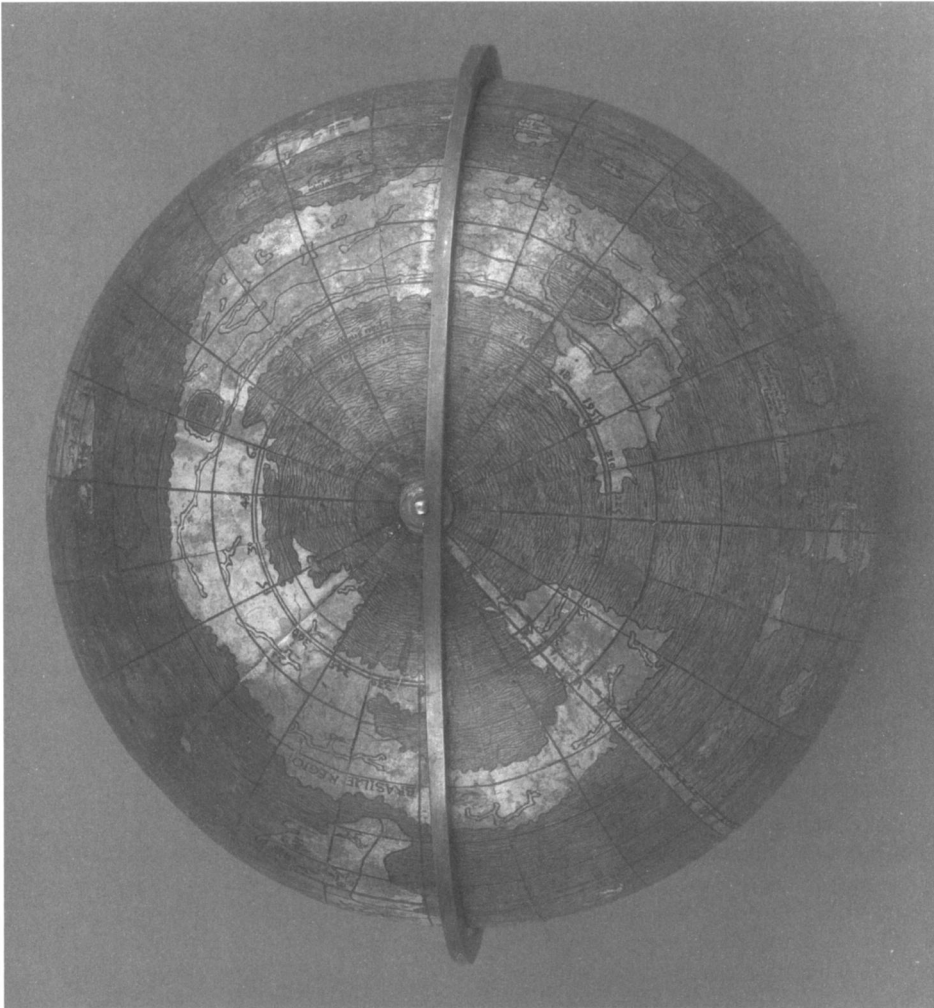


Fig. 36. The sea monster southeast of Candin on the Frankfurt globe (compare Fig. 37 and see p. 100). Photograph by Uwe Dettmar. With permission of the Historisches Museum Frankfurt.



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Fig. 37. The *echinus marinus* from the *Hortus sanitatis*, "De piscibus," Chap. 44 (compare Fig. 36 and see p. 100). From the Mainz 1491 edition published by Jacob Meydenbach. Courtesy of the Library of Congress.



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Fig. 38. The southern continent on the Frankfurt globe, showing two large lakes, each surrounded by mountains, joined by a long river (compare Fig. 39 and see pp. 101–103). Photograph by Uwe Dettmar. With permission of the Historisches Museum Frankfurt.





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Fig. 39. The southern continent on the Green Globe, Paris, Bibliothèque nationale de France, Rés. Ge A 335 (compare Fig. 38 and see pp. 6 and 101). With permission of the Bibliothèque nationale de France.



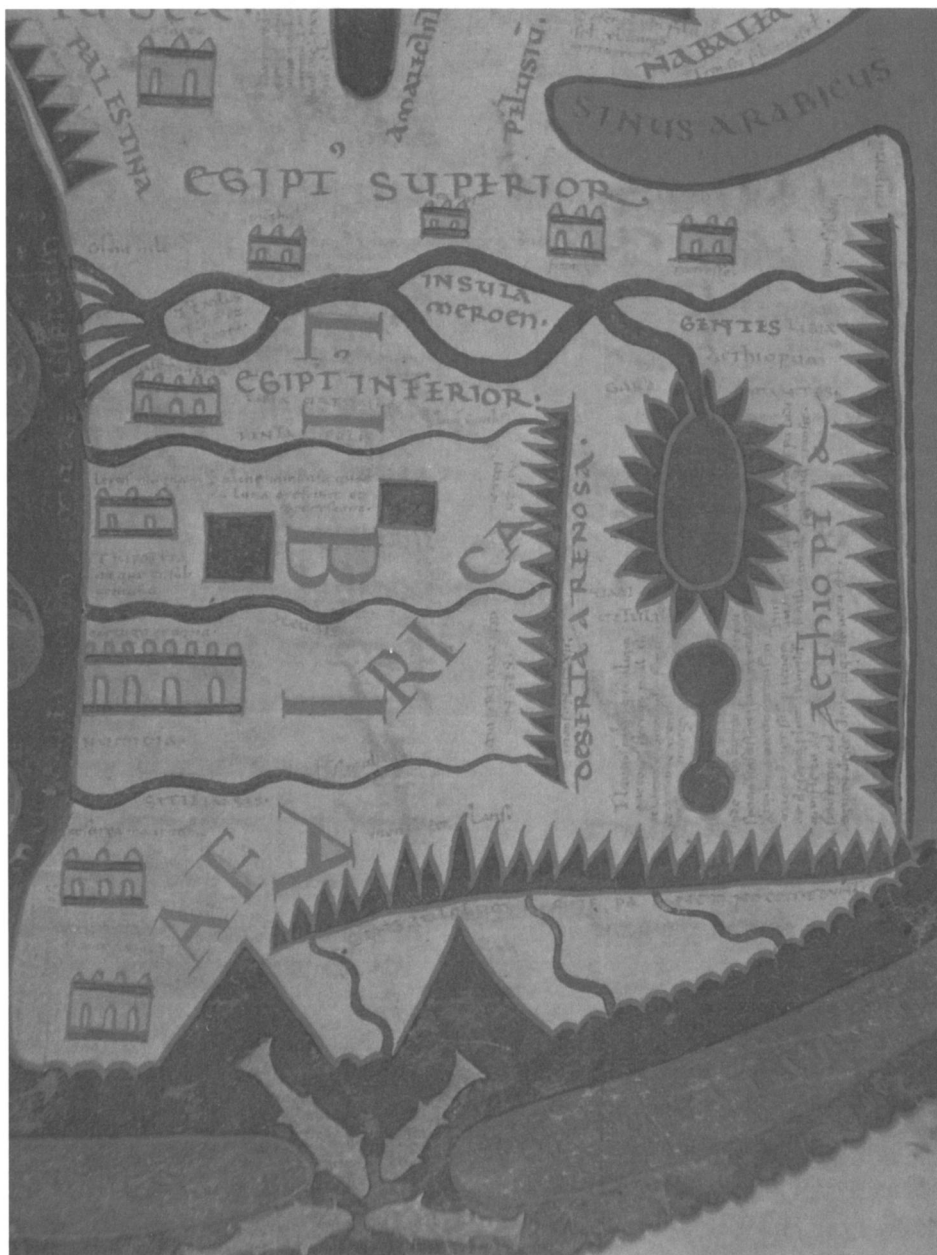


Fig. 40. The Nile lake surrounded by mountains on the Saint-Sever Beatus (Paris, Bibliothèque nationale de France, MS Lat. 8878, ff. 45bisv-45terr) (see p. 103). With permission of the Bibliothèque nationale de France.



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*Van Duzer's study of the globes made by the astronomer and mathematician Johannes Schöner is a work of admirable and patient scholarship, not only for the detailed analysis of Schöner's work, but also for the wider window that it opens on the practice of cartography in the late 15th and early 16th century. This book is required reading for anyone interested in Schöner, Waldseemüller, Renaissance mapmaking, or the production of geographic knowledge after the time of Ptolemy.*

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*The study is a decidedly significant contribution to knowledge, being inevitably linked to the other globes, maps, and textual material, especially of the late 15th and early 16th centuries. Of these, by far the most important is Waldseemüller's world map of 1507. The research is astonishingly up-to-date and detailed, tracking down a number of valuable, little-known sources. The quotations and translations are excellent. Academics will surely be much indebted to Van Duzer for this; I certainly am.*

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**Chet Van Duzer** is an independent scholar and author of numerous articles on the history of cartography, including "The Cartography, Geography, and Hydrography of the Southern Ring Continent, 1515–1763" (2002), "Cartographic Invention: The Southern Continent on Vatican MS. Urb. Lat. 274, Folios 73v–74r (c.1530)" (2007), and "The History of the Azores as Insulae Solis or Islands of the Sun in 16th Century Cartography" (2008).

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